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Pioneer Seed Co. Dimondale Mich.

Saier's

GARDEN

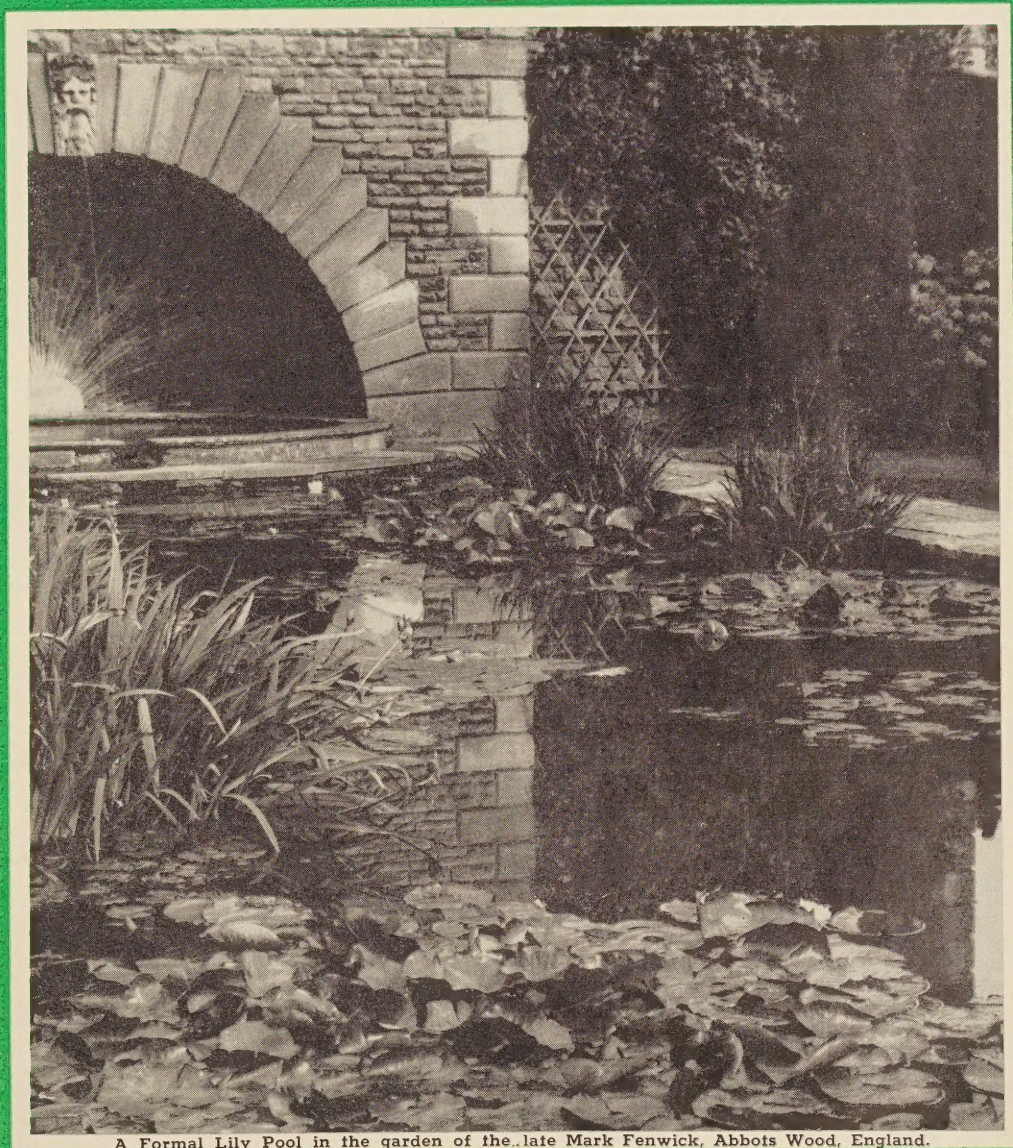
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A MANUAL OF RARE FLOWERS, THEIR SELECTION AND CULTURE

Vol. 3, No. 1,

January-February, 1952 25 Cents



A Formal Lily Pool in the garden of the late Mark Fenwick, Abbots Wood, England.

40 YEARS
of
EXPERIENCE

Special Lists of Rare Flowers
Herb Seeds - Rare Vegetable Seeds

HERB SEEDS OF ALL KINDS

ANGELICA (an-JEL-i-kah)

(Angelica archangelica) A stout herb to 6 ft. growing on low ground and makes a striking picture by side of stream, perennial. Pkt. 20¢; Oz. 60¢.

ANISE. (AN-is)

(Pimpinella aneum) Parsley Family, the leaves and seeds used for flavoring in cookery and also in medicine. Annual to 2 ft. and easily grown. Sow seed in April in rows where plants are to grow. Pkt. 20¢; Ounce 60¢.

BALM, LEMON.

(Melissa officinalis). An aromatic sweet herb of Mint Family, used in seasoning, in liquors and also in medicine. Annual, leaves have a decided lemon odor and flavor. Easily grown from seed sown late in fall or early in spring. Pkt. 20¢; Ounce \$1.00.



SWEET BASIL

BASIL, Bush or Dwarf.

(BAZ-il) (Ocimum basilicum minimum) Sweet herb of Mint Family, esteemed for flavoring, is an annual, tender and should be planted after frost danger is past. Easily grown from seed, started indoors or planted directly to garden, thin plants to 6-12" apart and in rich soil plants will continue to develop leaves after being cut. Cut the leaves as blossoms form, hang up in bundles to dry; plants can be lifted in fall for green leaves during the winter. This type grows 2 ft high. Pkt. 15¢; Oz. 30¢.

BASIL, Tall Green.

A taller strain of Basil and much used in a commercial way by market gardeners. Pkt. 15¢; Oz. 30¢; ¼ lb. \$1.30

BORAGE (BUR-ahj)

(Borage officinal) An attractive plant 18" high, with pretty sky-blue flowers in clusters, liked by bees. Upper leaves and flowers used in salads, the lower leaves are cooked like Spinach; the fresh foliage has a cucumber flavor and adds a cooling touch to salads. Space plants 2-3 ft. apart, hardy annual. Pkt. 15¢; Oz. 50¢



BORAGE

CARAWAY (KAR-ah-way)

(Carum cavi) An annual or biennial whose seeds are used to season bread, cakes, confections and cheeses; easily grown from early spring grown seeds, where plants are to stand, for two seasons. The young shoots and leaves may be used to flavor salads. Sow a few radish seed to mark your row. Pkt. 15¢; Oz. 35¢

CARDOON (kahr-DOON) Smooth Spanish

(Cynara cardunculus). Grown for its blanched stalks and thick main root, sow seeds early where plants are to grow, in hills 18-24" apart. Water during dry periods to keep foliage tender, in fall treat like Celery and later they will be ready to eat like Endive or Celery. Pkt. 15¢; Ounce 90¢

CELERY, Soup

Plain leaf type best suited for use in flavoring soups, either in green state or dried. Pkt. 15¢; Oz. 35¢

CHERVIL. (CHUR-vil)

(Anthriscus cerefolium) Plain leaf Chervil of Parsley Family, whose Parsley like leaves are used for flavoring salads. Grows 18-24 inches. Sow seeds in early spring or late fall, in any good garden soil, some shade best; produces leaves for use in 6-10 weeks. Pkt. 15¢; Oz. 40¢.

CHERVIL, Curled Leaf.

Similar to the plain leaf type except that the curled leaves are used more for garnishing, as with Parsley. Pkt. 15¢; Oz. 40¢.

CHICKORY, Brussels Witlof. Special

Strain (Chicorium intybus) A perennial herb, the roots of which can be dried and used as a substitute for coffee; the leaves are used when young and tender as greens or those of the older plants

are blanched much like Celery. The leaves are forced during the fall and winter to produce loose white or pink leaves or Witlof or French Endive. Sow early in the spring, thinly, in rows 18" apart, thin plants to 6" apart in the row. Dig the roots in the fall, cutting the tops to one inch and store in a pit or root cellar; for Witlof, shorten the roots to 8-9 inches, cutting the lower end, bury upright in damp sand or soil, covering tops with 6-8 inches of the soil and keep at about 50 degree F; in 2-3 weeks the blanched heads 5-6" long can be cut for use. Pkt. 15¢; Oz. 35¢; ¼ lb. \$1.95

CHICORY, van Spronsen's Variety.

A special select variety of Brussels Witlof. Pkt. 15¢; Oz. 35¢; ¼ lb. \$1.95

CHIVES (CHY-vz)

(Allium schoenoprasum) Perennial developing a thick grass like tuft and valued for their mild onion-like flavor, the green stems being used in salads, soups, etc. The oftener the leaves are cut the stronger the plant will grow. Sow seeds early in the spring, in rows 2-3 feet apart and thin plants to 6 inches apart. Keep seeds in sealed jar in refrigerator if not planted when received. Pkt. 15¢; Oz. 90¢

CORN SALAD

(Valerianella locusta, var. oleria) Dutch Broad Leaf, Large Seeded. Also known as Fetticus, Veticost and Lamb's-Lettuce. Grown in the early spring or late fall as a pot-herb; seed sown in the early fall, some plants will get large enough for fall use and the balance with mulching can be carried over for early spring plants. Sow in early spring in rows 12 inches apart, they do not do well during the hot summer. The leaves are mixed with mustard, pepper grass or water cress, as a salad. Pkt. 15¢; Oz. 60¢

CRESS

(Lepidium sativum) Pepper Grass.

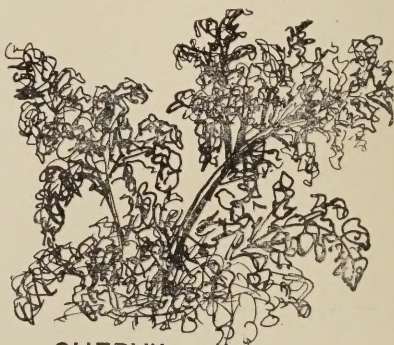
—Plain Leaved. Annual growing quickly and making the best greens for garnishing and for salads; the richer the soil the better, plant in rows 12" apart in earliest spring and at weekly intervals till middle of May. Pkt. 15¢; Oz. 25¢; ¼ lb. 40¢

—Curled or Double Leaved. Makes nicer leaves for garnishing as well as for salads. Pkt. 15¢; Oz. 25¢; ¼ lb. 45¢

—Large Leaved French. A large leaf strain. Pkt. 15¢; Oz. 25¢; ¼ lb. 45¢

CRESS, American Upland or Winter Cress

(Barbarea vernaprocax) A hardy biennial (Herbs Continued on Inside Back Cover)



CHERVIL

PIONEER SEED COMPANY - DIMONDALE, MICH.



George Russell and his Famed Lupins

The Russell Lupines represent 20 year's work of a little known gardener, whose name is likely to become a by-word amongst flower lovers the world over.

Having tried, with no little success, growing the various subjects which fall to the lot of every gardener, this young man of 60 who had little theoretical knowledge, but had learnt a great deal from a keen study of nature, decided to devote the rest of his life to a definite object, and some old-fashioned blue and white Lupines exhibited at York Gala in 1911 fired his imagination.

His Start in Improvement

He made a start by buying plants of every known variety and writing to all corners of the world for seed. When they flowered, he must have felt that long life was promised or he would never have had the courage to carry on with such unpromising material.

A start had to be made somewhere and he decided to eliminate all but one or two of the better types and so he continued year after year, feeling he was making progress, but more often than not, realising he came to be an old man before his dreams came true.

The patience of the fisherman is quoted as something rather wonderful, but it pales to insignificance besides that of George Russell

who, when past three score years and ten carried on, although it meant waiting from June to June for nature to disclose the secrets of his work.

At last in 1925, at an age when most people are satisfied with an armchair in the corner, results began to come; a better type of flower, colors not seen before, and Mr. Russell knew that success was around the corner, the years had not been wasted!

The Russell Lupin Recognized

People began to talk and from 1932 onwards, the road alongside the allotment where they were grown became the Mecca of gardeners in June, when the plants were in flower.

Trade growers made tempting offers but they were allowed to admire, but Mr. Russell was not yet satisfied.

He was making his living as a jobbing gardener. Money was of little importance and for a long time he could not make up his mind to distribute them and from 1930 onwards, he had been receiving offers, which would have tempted many who were much better placed in regards to the comforts of the world; \$250.00 for one plant, \$250.00 each for many others and \$50.00 for a thimbleful of seed from an enthusiastic American. He refused them all, including a Royal Gardener and many bigwigs

of the Seed and Nursery trade! He was not yet ready.

At last, realizing his attitude seoured of "the dog in the manger," he decided his joys would be increased by sharing with others.

When making arrangements for the distribution, financial reward was not the first consideration. He wanted the strain associated with his name, and to turn it to account in building a career for a boy who, for some years, had helped him in his work. When eventually it was agreed that the Bakers should have the privilege of taking over the future development and distribution, it was conditional on the boy being given an opportunity of continuing the work he, too, had grown to love.

Public Recognition

The least sensitive observer of this new strain of Lupines will surely be conscious of the great boon which Mr. Russell's devotion and perseverance has bestowed upon the world. In almost any walk of life, art, industry, an equally notable achievement would have brought public recognition and honors but Mr. Russell, then well over 80 years of age, justifiably proud of a task well done, still remained the old gardener of York, who does a job here and there where needed.

Hybrid Corn Remarks

Continued from Page 195.

ive element is left out of food, as in the case of germs of grain, such grain is lacking in essential food values, we then conclude that the de-tasseling of corn which alters the reproductive power of the seed also alters the quality of that corn for seed.

8. We further conclude that when only about 1/5 of the hybrid seed field is used to pollinate the other 4/5 of the field or all of that field which goes for seed, we are running further into production of an inferior corn crop.

9. Throughout all nature, reproduction is the proof of life and is the end result that is provided for in a plant or animal. Without reproduction, that plant or that animal becomes extinct. Reproductive power in animals is closely related to the reproductive power of the plants which these animals eat. So when we use a variety which will not reproduce itself, such as hybrid corn, we are undermining the health of the animal which consumes that plant to support itself in life or strength. If this law holds good in regard to the domestic animals it will surely hold good also for the human race.

10. The profit motive has brought hybrid corn into existence. Hybrid is known to be more demanding on trace elements of soils and is therefore more of a fertility-consuming crop than the natural open-pollinated. The Middel West is in an uproar over the corn borer. The exhaustive demands of hybrid corn have led to more infestation by this pest and by various diseases.

11. Hybrid corn is a very poor answer to the cry for greater yields. It has brought on more poison spray, which has not proved a cure in any case. So the vicious cycle is accelerated.

12. We have been thoroughly convinced, beyond a reasonable doubt, that corn can be improved only by field selection and by the organic methods applied to the soil on which it is grown.

13. We are fully convinced that de-tasseling is not Nature's plan for improvement, and the fact that hybrids do not reproduce themselves proves to us that we are putting off the day of reckoning and are providing only an inferior product. And we further believe that if there is a surplus of quantity at this time, there is not now, and never will be, a surplus of quality of corn. And the answer to the yield problem is new soil from the cycle of life and not new varieties.

RHUBARB FROM SEED

Raising Rhubarb plants from seed is an old practice but in the 19th century, however, it was almost entirely by division of the old roots, under the impression that much stronger plants could be raised.

This does not adhere to the principal that seedlings are always stronger and more free in growth than when plants have been increased by cuttings or off-sets for a considerable time.

There are many types that come true from seed in Rhubarb. Sow in late spring and up to early June. Sow in drills and as soon as possible, thin to 6 inches apart. During summer the seedling plants require plenty of water and it is well to mulch them during dry periods.

Usually 50% of the plants will be ready for the next season, if sown early and well cared for. We list some of the best varieties.

GAULTHERIA - GENTIAN - GEUM

This seed list continues from page to page and from issue to issue and runs alphabetically.

GAILLARDIA: Continued from Page 197.

G. PULCHELLA: Also listed as *G. picta* and *G. Drummondii*. Hardy annuals growing to 1½ feet. They come in several varieties and are grown mainly for cutflowers.

—**Indian Chief.** Pretty deep coppery scarlet with dark brown center..... **GAIL-7C.** 15¢
—**Double Yellow.** Pure golden yellow..... **GAIL-7Y.** 15¢
—**Lorenziana, Double Mixed.** Variety *picta*; disk fls, enlarged, tubular **GAIL-7LD.** 20¢
—**Single Mixed.** A choice blend of varieties..... **GAIL-7X.** 10¢
—**New Giant Double Hybrids.** A high class mixture..... **GAIL-7DX.** 15¢

GALEGA (gah-LEE-gah) Leguminosae.

Bushy perennials with white, blue or purple pea-like flowers in thick clusters or racemes; excellent cutflowers. Seed can be sown where plants are to grow.

—**officinalis.** Goat's Rue. White, lilac and rose fls; 3 ft; HP..... **GALG-2.** 15¢
—**persica.** Pure white for back of the border; 3 ft; HP..... **GALG-5.** 15¢

GALIAM. (GAY-lee-um) **BED-STRAW.** Rubraceae.

Used mainly in rock gardens and as cut flowers for a light effect in bouquets. Easily grown from seeds.

—**boreale.** Northern B. White flowers; 3 ft; HP..... **GALI-3(F).** 40¢

GALTONIA candicans. Giant Summer Hyacinth; white; ft; TBb.... **GALT-98 (B).** 50¢

GAMOLEPSIS (gam-MOL-ep-is) Compositae.

Small shrubs or plants from S. Africa having yellow solitary flower heads of ray and disk flowers. Grown for the flowers or edging; tender.

—**tagetes.** Bright yellow; 1 inch across; early fl'ing; dwarf; 12"; TA..... **GAMO-1.** 20¢

GARDENIA jasminoides. (Florida Cape Jasmine).... **Oz.** 75¢; 1b. \$6.00.... **GARD-3 (S).** 35¢

GAULTHERIA. (gawi-THÉE-re-ah) Ericaceae.

Evergreen woody plants of the Heath Family having rather small white, blue, red or black flowers followed by fruits. Many are very dwarf and suited for the rock garden. Sandy soil, plenty of moisture, best in light shade and acid soil; not real hardy in the North without winter protection.

—**Hookeri.** Rare species from the Himalayas..... **GAUL-6.** 50¢
—**Miqueliana.** White or pinkish nodding flowers; 12"; RG..... **GAUL-10.** 30¢
—**procumbens.** Tea-berry; White, nodding; fr. scarlet; HP..... **GAUL-17(F).** 50¢
—**trichophylla.** Solitary pink flowers; prostrate; RG..... **GAUL-21.** 30¢
—**Gaultheria Blend.** Mixture of available species..... **GAUL-X.** 25¢

GAURA. (GAU-rah) Oragraceae.

North American perennials; rose or white flowers in spikes or clusters. Grown in the border or wild garden.

—**Lindheimeri.** White with rosy cups; grow as hardy annual; 4 ft; TP.... **GAUR-2.....** 15¢

GAZANIA. (gah-ZAY-ne-ah) (Meridiana) Compositae.

Grown in the flower garden and for edging. Flowers in white, yellow, orange and opening in the sunshine, disks dark.

—**longiscarpa.** Heads 2" ac; rays orange with dark spot at base; TA*..... **GAZ-1.** 30¢
—**splendens, Mixed.** Rays orange with black and white spot at base; 18"..... **GAZ-8.** 20¢

GENISTA. (jen-NIST-ah) **BROOM.** Leguminosae.

Ornamental shrubs with yellow or white flowers in racemes followed by flattened pods. Thrive in dry locations and mild climates, not hardy in the North. *G. canariensis* is grown in the greenhouse for pretty pot plants.

—**aemensis.** Golden yellow; frag; July-Aug; Sicily; 15 ft; HSH..... **GENS-1(S).** 25¢
—**canariensis:** see *Cytisus canariensis*.
—**fragrans:** see *Cytisus fragran*.
—**germanica.** Yellow in racemes; June-July; 2 ft; HSH..... **GENS-10(S).** 25¢
—**hispanica.** Golden yellow, terminal heads; May-June; 2 ft; HSH..... **GENS-11(C).** 30¢
—**horrida.** Yellow in terminal heads; 18"; HSH..... **GENS-12(C).** 40¢
—**monosperma.** White, frag, short racemes; Mar-Apr; 10 ft; HSH..... **GENS-17(S).** 25¢
—**pilosa.** Yellow, short racemes; prostrate; May-June; HSH..... **GENS-21(S).** 25¢
—**radiata.** Yellow heads; May-July; not spiny; 2 ft; HSH..... **GENS-22(C).** 25¢
—**sagittalis.** Yellow fls in racemes; June-July; 1 ft; HP..... **GENS-23(C).** 50¢
—**tinctoria.** Yellow; July-Aug; 3 ft; HSH..... **GENS-28(S).** 25¢
—**Genista Blend.** All species mixed..... **GENS-X.** 25¢

GENTIANA. (jen-shee-AY-nuh) Gentian. Gentianaceae.

Low growing annuals and perennials, generally with blue or purple flowers, occasionally white or yellow. They are excellent rock garden plants; require good drainage but the soil must be moist. They should be in as cool a place in the garden as possible. Best results will be had in planting fresh seed; they are slow to germinate and provision should be made so that the seed pan can be held a year or two.

—**acaulis.** Dark blue, spotted inside; 4"; HP..... **GENT-1(C).** 30¢
—**Forms.** Choice selections of this species..... **GENT-1F (W).** 50¢
—**Andrewsii.** Purplish blue fls; 2 ft; HP..... **GENT-7.** 35¢
—**asclepiadea.** Dark blue fls; 18"; Caucasus; HP..... **GENT-9(C).** 50¢
—**candidum.**..... **GENT-22.** 50¢
—**cruciata.** Dark blue fls; 10"; HP..... **GENT-25.** 50¢
—**Farreri.** Blue, white throat, yellowish white band; 3"; HP ;China..... **GENT-31.** 50¢
—**Purdumii.** Easy to grow; likes lime; bright blue; 5"; HP..... **GENT-86(B).** 50¢
—**alba.** A floriferous white form; 4"; HP..... **GENT-86A(B).** 50¢
—**purpurea.** Purple fls; 2 ft; HP..... **GENT-96(C).** 30¢
—**Saponaria.** Blue fls; 30"; HP..... **GENT-91.** 35¢
—**septemfida.** Blue fls; August; 3"; HP..... **GENT-98 (B).** 50¢
—**gracilipes.** Rosette-forming; fls purplish blue; China; 6"; HP..... **GENT-42.** 50¢
—**hascombensis.** Hybrid; 2 ft; fls 1½" ac; bright blue speckled white **GENT-44(E).** 50¢
—**lutea.** Yellow fls; 1" long in dense umbel-like cymes; 6"; HP..... **GENT-53(C).** 50¢
—**pneumonanthe.** Fls deep blue, 1½" long; 1 ft; HP..... **GENT-70 (W).** 50¢
—**septemfida.** Fine blue fls; stems 10"; July-Aug; HP..... **GENT-98 (B).** 50¢
—**thermalis.** (elegans) Blue; 1 ft; HA..... **GENT-111 (W).** 40¢
—**verna.** Tufted; dark blue fls; 3 in; HP..... **GENT-118(C).** 50¢
—**Gentiana Blend.** All species mixed..... **GENT-X.** 25¢

ON PURCHASES OF LESS THAN 50¢ WE WILL ACCEPT 3¢ STAMPS

PIONEER SEED COMPANY

DIMONDALE MICHIGAN

GERANIUM - GILIA - GINKGO

GERANIUM. (gee-RAY-nee-um) CRANESBILL. Geraniaceae.

Annuals and perennials grown in the border or rock garden. Set the plants of the perennials species, out in the spring. They are easily grown. The greenhouse Geraniums are listed as Pelargonium.

—collinum. Purplish violet fls; 1½ ft; HP.....	GERN-11. 25¢
—Endressii v. A. T. Johnson. Fine selection; rose; 18"; HP.....	GERN-137 (W). 40¢
—Fremontii. Rose-purple, 1" ac; 1 ft; HP.....	GERN-18 (F). 50¢
—ibericum. Blue fls; 1½ ft; HP.....	GERN-23 (C). 30¢
—nepalense. Rose-purple fls; decumbent to 18"; HP.....	GERN-30. 20¢
—pratense. Blue, ½" across; Eurasia; 3 ft; HP.....	GERN-38 (C). 30¢
—prostratum v. lancastriense. Dwarf; dark pink fls; 6"; HP.....	GERN-46L. 25¢
—Silver Queen. Another English selection.....	GERN-38 (W). 40¢
—bicolor. Purple-white form.....	GERN-38B (W). 40¢
—Mrs. Kendall Clark. An English selection.....	GERN-38C (W). 40¢
—psilostemon. (G. armenum) Dark red, spotted black at base; 24"; HP.....	GERN-39. 25¢
—sanguineum. Reddish purple fls; 18"; HP.....	GERN-46. 15¢
—sessiliflorum. White, ½" ac; 4"; HP.....	GERN-47 (W). 40¢
—sylvaticum album. White fls, 1" ac; 2½ ft; HP.....	GERN-50A (W). 40¢
—Geranium Blend. All the available species mixed.....	GERN-X. 25¢

GERARDIA (ger-AR-de-ah) (Agalinis) Scrophulariaceae.

Annual and perennial plants with rather showy red or yellow trumpets. Sow seed by a rotted log in light shade. Not easy to establish.

—virginica. (Aureolaria) Nice yellow; June-Aug; 4 ft; HP.....	GERA-3. 25¢
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GEUM (GEE-um) Avena. Rosaceae.

Erect perennial plants, easily grown and excellent for cutting or for beds, border or rock garden. Sow the seeds in open ground early in the spring.

—Borisii. Hybrid with bright yellow flowers; 6"; HP.....	GEUM-3. 25¢
—campanulatum. Reddish purple fls; 1½ ft; Wash; HP.....	GEUM-7 (W). 35¢
—chiloense v. Fireball. Bright scarlet flowers; 24"; HP.....	GEUM-10F. 15¢
—Gold Ball. Rich golden yellow flowers; 24"; HP.....	GEUM-10G. 15¢
—Mrs. Bradshaw. Rich double scarlet flowers; 24"; HP.....	GEUM-10B. 15¢
—Scarlet. Large double flowers.....	GEUM-10R. 25¢
—Lady Stratheden. Double golden yellow flowers; 24"; HP.....	GEUM-10S. 15¢
—Mixed Chiloense Varieties.....	GEUM-10X. 25¢
—coccineum. Bright red flowers 1" across; HP.....	GEUM-11. 15¢
—Fireball. Brilliant red variety.....	GEUM-11F (C). 30¢
—elatum. Golden yellow; 12"; best in light shade; HP.....	GEUM-13. 20¢
—hybrid. Waights Brilliant.....	GEUM-16W. 25¢
—montanum. Golden yellow flowers 1½" across; 1 ft; HP.....	GEUM-24. 15¢
—pyrenaicum. Yellow nodding fls; 18"; HP.....	GEUM-28 (W). 35¢
—sylvaticum. Yellow fls 1" ac; 2 ft; HHP.....	GEUM-36 (W). 50¢
—triflorum. Purplish fls; ¾" ac; 18"; HP.....	GEUM-38 (W). 35¢
—urbanum. Yellow flowers, ½" across; 2 ft; HP.....	GEUM-40. 20¢
—Yu (10,834). Newly collected from China.....	GEUM-42. 80¢
—Geum Mixture. All available kinds mixed.....	GEUM-X. 15¢

GILIA. (JIL-e-ah) Polemoniaceae.

Annual, biennial and perennial plants with blue, yellow, pink or white funnelform flowers. They are mostly annuals and the seed can be planted early in open ground.

—achilleaeifolia. Blue fls in dense terminal clusters; 2 ft; HA.....	GIL-2. 15¢
—aggregata. Scarlet fls; 2½ ft; HB or HP.....	GIL-4. 30¢
—capitata. Light blue fls in heads 1" across; 2ft; HA.....	GIL-12. 15¢
—White. A white variety of the above.....	GIL-12W. 15¢
—caruifolia. HA.....	GIL-13. 15¢
—dianthoides. Ground Pink. Exquisite pink fls 1"; 6 in. tall; HHA.....	GIL-18. 20¢
—lacinialata. Rose, blue, pale lilac to white fls; 8"; HA.....	GIL-22. 20¢
—lutea. (G. micrantha) Erect; yellow, white or rose fls; 6"; HHA.....	GIL-26. 15¢
—rubra. Standing Cypress. Scarlet fls with markings; 6 ft; TB or TP.....	GIL-38. 15¢
—tricolor. Fls with lilac lobes, yellowish tube and purple th; 18 in; HA.....	GIL-42. 15¢
—Gilia Mixture. All available kinds mixed.....	GIL-X. 15¢

GINKGO biloba. Maidenhair-tree. N. Eng. seed.....Oz 30¢; lb. \$2.75 GINK-1 (S). 15¢

GLADIOLUS (glad-ee-OH-lus) Iridaceae.

Cormous plants native of S. Africa. Most of them must be dug up in the fall and stored in a frost proof place over winter. There are some species that are hardy in Michigan. The common garden Gladiolus are grown from corms as a rule.

—blaudus. White and red tinged fls; 2 ft.....	GLAD-5. 25¢
—communis. Hardy in Ohio Valley; bright purple; Germany.....	GLAD-14 (F). 40¢
—illyricus. Reddish fls; 18".....	GLAD-29. 25¢
—Melleri. Bright salmon-red; 3-4 ft; S. Rhodesia.....	GLAD-34. 25¢
—permeabilis. Pink or lilac fls; 2 ft; S. Rhodesia; Teb.....	GLAD-41. 35¢
—primulinus. Various colors; 18".....	GLAD-42. 15¢
—psittacius. Bright red fls; 3 ft.....	GLAD-44. 25¢
—Gladiolus Mixture. All available kinds mixed.....	GLAD-X. 15¢

GLEDITSIA. (gled-DIT-see-uh) HONEY LOCUST. Leguminosae.

Spring sown seed best; best treatment before planting is the concentrated commercial sulfuric acid treatment; wash seed well after treating and plant immediately.

—Spring sown seed best; best treatment before planting is the concentrated commercial sulphuric acid treatment; wash seed well after treating and plant immediately.	
—japonica. 70 ft; Japan.....	Oz. 80¢; lb. \$3.80.....
—sinesis. 40 ft; China.....	Oz. 80¢; lb. \$4.00.....
—triacanthos. Sweet Locust. Pa.to Fla.....	Oz. 25¢; lb. \$1.80.....
—inermis. Pods 1½" long.....	Oz. 25¢; lb. \$2.00.....
	GLED-12N (S). 25¢

GLAUCIUM (GLAW-se-um) HORNED or SEA POPPY. Papaveraceae.

Glaucaus plants with orange colored juice and with large solitary orange or yellow flowers. They are grown as annuals, thriving in any soil in a sunny location.

—flavum. Golden yellow or orange, 2" ac; 3 ft; HP or HB.....	GLAU-4 (W). 40¢
—Mixed. Scarlet and yellow; 2 ft; HP grow as an annual.....	GLAU-X. 15¢

You can order your seeds any way you wish, either by writing the full name down of the flower wanted or just using the symbol at the end of the line; it is easier and plainer with just the symbol but be sure to make it very plain and the correct one.

PIONEER SEED COMPANY

DIMONDALE MICHIGAN

PHOTOSYNTHESIS

The factor is likely to be possessed only by turgid seed like those of Crinum, Ismenes, Clivia, Heymenocallis, Nerines, Brunsvigias, Haemanthus and many others.

Taking Crinum, as an example, the seed may be from ½ to 2 inches in diameter. Nerines may be only 1/8 inch in diameter, but all such seed are rather soft, not hard like a radish seed. They are rounded in form.

Such seed drop on the ground and thus should not be covered when "planted". They then send out a radicle which penetrates the soil. At the end of the radicle a small bulb is formed which later sends up foliage. The entire seed is absorbed by the new bulb.

These turgid seed have a large amount of food stored up in the form of starch. Enzymes are also present and they change the insoluble starch into soluble sugar to nourish the new bulb. In order that it may gain additional food for the very rapid development which the new bulb makes, the seed coat possesses photosynthesis. By this factor, carbon is taken from the air and made into starch. Soon foliage is made and they take over the process of supplying the food that must be taken from the air by photosynthesis.

Probably the class of seed we are discussing is the only one that needs light in order to grow well. That does not mean direct full sun exposure. Such seeds are usually shaded by the mother plant.

Probably no other seed needs light to promote growth before the foliage is formed. Amaryllis to Zantedeschias all need to have seed covered and shading is best. But these members of the Amaryllis family which have the turgid seed should be planted on top of the soil for best results. But they too should be shaded. The soil should be sandy and contain much leaf mould.

By Cecil Houdyshel, Calif.

RAMPION

In Europe, Campanula rapunculus, is grown and eaten raw as a salad. In this country this plant is considered as a bad weed!

The seed is sown early in May, broadcast or in drills, 8-10 inches apart, and then from October on, the roots are gathered.

FIBROUS ROOTED BEGONIAS

Species such as coccinea, fuchsiodes, manicata, Gloire de Lorraine, Haageana, Rex or Imperialis, can be grown from seed sown in January or February, in a temperature of 65-75 degrees F.

For a potting soil, peat, loam, some charcoal and sand is best. After the plants are potted, they require a temperature of 55 with 5 more in spring and summer. Repot in March if necessary.

SOIL REQUIREMENTS FOR BORONIA MEGASTIGMA.

Boronia megastigma NESS. needs a mixture of peat humas, sand and top soil, about 1/3 of each. Do not over water in the winter and do not wet the foliage, neither the stem. Optimum winter temperature is around 40-45 degrees F.

By S. L. Solymosy, Ga.

PEAT AND ACID LOVING PLANTS

Mix 30-50 per cent peat by volume into the soil for such plants as Azaleas, Clematis, Hemlocks, Hydrangeas (bule), Kalmia, Laurel, Pieris, Rhododendrons, Taxus, Blueberry, Strawberry, etc.

GET EVERY ISSUE — \$2.00 PER YEAR

Saier's GARDEN MAGAZINE DIMONDALE, MICHIGAN.

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JANUARY 1952.

Owner and publisher of **Saier's Garden Magazine**, Harry E. Saier, Dimondale, Mich. Issued each month. Subscription price \$2.00 per year; 2 years \$3.00; single copies 25 cents.

We are again a little late in getting out this month's issue; it is all due to short 24 hour days. It is hard to get help that is posted on the type of flowers and seeds we discuss, to say nothing about the actual printing problems, but it IS getting better so we trust our readers will understand.

We have received about 20 letters from subscribers, saying they did not get their December issue. These were all carefully mailed out and we have no other explanation. Duplicate copies were sent promptly upon receipt of their letters.

We receive many letters daily and not all have been answered; we hope to do so tho; our intentions are good.

HAVE YOU A FAVORITE GARDEN?

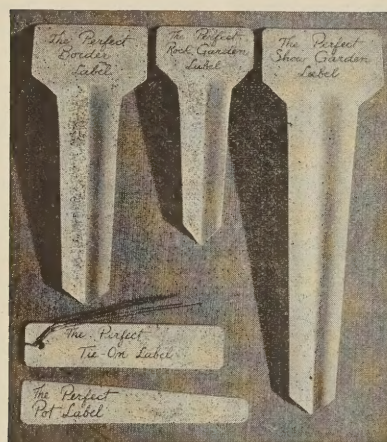
We will be pleased to give a good write-up of your favorite garden with a picture on the cover. If your garden club will discuss the subject and then take a vote as to the local garden to be recommended, it will stimulate much interest in gardening.

The garden selected should contain a good selection of flowers and be noted for the effort spent on it by its owner. This will be a good subject for discussion during the winter months; let's hear from your club.

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PIONEER SEED COMPANY
DIMONDALE, MICHIGAN

ESCHSCHOTLZIA - EXACUM

This seed list continues from page to page and from issue to issue and runs alphabetically. Bb means bulb; Tr, tree; Sh, shrub; T, frost tender; W white; lvs, leaves Cl, climber.

EUCALYPTUS. (en-kah-LIP-tus) GUM TREE. Myrtaceae.

Rapid growing evergreen trees of warm sections of the country. Some are profuse bloomers and make a valuable source of honey. Sow seeds early in the summer; cover with lath for shade and transplant following year.

- botryoides. Bastard Mahogany; 100 ft.....Oz. \$1.00; lb. \$8.50..... EUCA-12 (S). 35¢
- globulus.....Blue Gum. Commonly grown; 300 ft; c.s. Oz. 90¢; lb.\$5.50 EUCA-39 (S). 30¢
- Gummi. Cider Gum; 30 ft; Oz. \$1.10; 4 oz. \$3.00..... EUCA-43 (S). 50¢
- hybrid (rostata x botryoides).....Oz. \$1.10; 4 oz. \$3.20..... EUCA-46 (S). 50¢
- camaldulensis. Red Gum; 200 ft.....Oz. \$1.00; lb. \$5.50..... EUCA-15 (S). 50¢
- rostrata: see E. camaldulensis. Recently reclassified.
- rudis. Desert Gum; 100 ft;.....Oz. \$1.35; lb. \$9.00..... EUCA-88 (S). 50¢
- viminalis. Manna Gum; 300 ft.....Oz. \$1.00; lb. \$7.00..... EUCA-105 (S). 50¢

ESCHSCHOTLZIA. (esh-SHOLT-see-uh) Papaveraceae.

Western North American natives with showy yellow flowers. Grown as annuals for their showy display. Plant early in the spring.

E. californica: California Poppy. Sow seeds where plants are to grow, early in the spring or in the South, they should be sown in the fall. They are especially showy in mass plantings and grow well in most any soil, giving a long period of bloom.

Single Flowered Varieties: Very showy in mass plantings.

- aurantiaca. Deep orange..... ESCH-1A. 15¢
- Carmine King. Best carmine variety..... ESCH-1C. 15¢
- Crocea. Beautiful bright orange variety..... ESCH-1CR. 15¢
- Dainty King. Pretty, dainty soft pink..... ESCH-1D. 15¢
- Dazzler. Erect, compact, fiery scarlet..... ESCH-1L. 15¢
- Golden West. Bright yellow with orange center..... ESCH-1G. 15¢
- Mandarin. Inside petals orange, outside scarlet..... ESCH-1M. 15¢
- Mikado. Attractive orange-crimson..... ESCH-1K. 15¢
- Orange Flame. Vivid orange-scarlet, showy in masses..... ESCH-1F. 15¢
- Orange King. Showy orange..... ESCH-1R. 15¢
- Rose Cardinal. Pretty carmine-pink..... ESCH-1N. 15¢
- Scarlet Beauty. One of the best scarlets..... ESCH-1S. 15¢
- Tango. Bronzy red and terre cotta..... ESCH-1T. 15¢
- The Geisha. Brilliant gold and crimson, showy..... ESCH-1H. 15¢
- Vesuvius. Showy Wallflower-red..... ESCH-1V. 15¢
- White Emperor. The best white..... ESCH-1W. 15¢
- Ramona Hybrids. Compact, fringed strain in many colors..... ESCH-1RX. 15¢
- Single Eschscholtzia Blend. Blend of above..... ESCH-1X. 15¢
- Monarch Art Shades. Finest blend of double flowers..... ESCH-2X. 10¢

EUGENIA. (yeu-JEEN-ee-uh) Myrtaceae.

Semi-tropical evergreen shrubs and trees. Grown in Fla and Calif; they are ornamental, in leaf, flowers and berries; easily grown

- uniflora. Surinam Cherry, Petanga; Sh 25 ft; fls white; fr crimson..... EUGE-26. 25¢

EUPATORIUM. (yew-pah-JOH-ree-um) THOROUGHWORT, BONSET. Compositae.

A large genus with ornamental plants for the greenhouse, border and wild garden.

- They are all easily grown from seed.
- cannabinum. Snow-on-the-Mt. Pale purple heads; 6'; HA..... EUPT-9. 20¢
- Lasseauxii. Heads white changing to rose; 2 ft; TA..... EUPT-20. 20¢
- maculatum. Joe-Pye Weed. Fl heads pink or purple; 8 ft; TA..... EUPT-25. 15¢
- purpureum. Joe-Pye Weed. 10 ft; heads pink of purple; HA..... EUPT-32 (W). 25¢
- Eupatorium Mixture. All kinds mixed..... EUPT-X. 15¢

EUPHORBIA. (eu-FAUR-be-ah) SPURGE. Euphorbiaceae.

A large genus consisting of many different types of plants and having a milky juice. They thrive in a porous and not too rich a soil.

- Wulfenii. Sub-sh; fls greenish yellow; lge dense cymes; 5 ft; TP..... EUPH-153 (W). 40¢
- sikkimensis..... EUPH-134 (W). 50¢
- characias..... EUPH-26 (W). 35¢
- Fraseri: see E. rugosum.
- rugosum. White Snakeroot. White heads; 4 ft; HP..... EUPH-34. 25¢
- heterophylla. Like Poinsettia; start indoors; 3 ft; TA..... EUPH-67. 15¢
- Livingstonia. From North Rhodesia..... EUPH-80. 35¢
- Myrsinites. Decumbent RG; stems end in golden flower head; HP..... EUPH-90. 20¢
- polychroma: see E. epithymoides. (Recently reclassified, sorry to say)
- epithymoides. Showy in border; 20" HP..... EUPH-40. 25¢
- pulcherrima. Poinsettia. Bright red; sh 10 ft; TP..... EUPH-122. 25¢
- Euphorbia Mixture. All kinds in stock..... EUPH-X. 15¢

EXOCHORDA. (ek-soh-KAUR-dah) PEARL-BUSH. Rosaceae.

Hardy deciduous Asian shrubs. They thrive

- racemosa. Race. of pearly buds; fls pure white; 10 ft Oz. 65¢ Lb. \$4.50 EXOC-6 (S). 25¢

EVODIA. (ee-VOH-dee-uh) Rutaceae.

Rhus-like trees and shrubs, some hardy and others greenhouse subjects (GH).

- framifolia. From India..... EVOD-3. 25¢

EXACUM. (EKS-a-kum) Gentianaceae.

Annual, biennial and perennial summer blooming plants; flowers white, lilac or purplish blue, flat petalled in branching clusters at top of leafy stems. Not hardy in the North but grown as a pot plant; hardy in the South. In the North sow seeds in August for large specimens or early in March, shade from hot sun.

- teres. Blue fls; 4 ft; India..... EXAM-6. 25¢

FARSETIA. (far-SET-ah) Cruciferae.

Erect woolly annuals and perennials or sub-shrubs with white, pink or yellow flowers in spikes or racemes. Sometimes listed under Fibigia.

- clypeolata. (Boiss)..... FARS-2(F). 50¢
- eriocarpa. (Boiss)..... FARS-5(F). 50¢
- lunarioides. (S. S.) Bright yellow fls 1 1/4" ac; 1 ft; Greece; HP..... FARS-9(F). 50¢
- Farsetia Blend. Above species mixed..... FARS-X. 35¢

ORDERS FOR SEED MAY BE AS LOW AS ONE PACKET; ORDER AS NEEDED.
ON PURCHASES OF LESS THAN 50¢ WE WILL ACCEPT 3¢ STAMPS

PIONEER SEED COMPANY — DIMONDALE MICHIGAN

FELICIA - FESTUCIA - FREESIA

FATSIA. (FAT-see-ah) Araliaceae.

A single evergreen shrub from Japan and grown in the greenhouse in the North or out doors in the South. It is especially desirable for its foliage.

—*japonica* v. *Moseri*. A compact growing form..... **FAT-1. 25¢**

FELICIA. (fe-LISH-e-ah) Compositae.

African plants and subshrubs. The latter are greenhouse plants and the annuals make nice plants in the garden. They have attractive daisy-like flowers with blue or white rays and yellow disks.

—*Bergeriana*. Kingfisher Daisy. Bright blue star-shaped fls; RG; 12"; TA. **FELC-4. 40¢**
—*hyssopifolia*. Rays lavender-mauve, golden disk; 12"; TP..... **FELC-8. 30¢**

FERNs.

Ferns are classified in several genera; we list here under this heading, collected ferns spores, mostly from Columbia, of which we do not have sufficient descriptions to properly classify them.

—*Tree Ferns*. Collected in Columbia..... **FERN-3. 25¢**
—*Tongue Fern*. Non-creeping form from Columbia..... **FERN-4. 25¢**
—*Tongue Fern*. Small creeping fern from Columbia..... **FERN-2. 25¢**
—*Mixed Fern Spores*..... **FERN-X. 25¢**

FIBIGIA: see under **FARSETIA**.

FESTUCA. (fes-TUC-ah) Fescus. Gramineae.

Perennial grasses, mostly tufted, with spiklets in narrow panicles. Some are suitable for pastures, others for lawns or ornamental grasses; listed here are the ornamental.

—*ovina* v. *glauca*. Blue glaucous foliage; 2 ft; HP..... **FEST-8G(C). 25¢**
—*rubra*. Red Fescue. Lvs reddish or glaucous; 3 ft; HP..... **FEST-10(F). 35¢**

FORGET-ME-NOT: see *Myosotis*.

FRNCOA *sonchifolia*. Pink, marked dark color; 2 ft; HHP..... **FRAN-5 (W). 40¢**

FRANKLINIA: See *Gordonia* *altamaha*.

FRASERA. (fray-ZER-ah) COLUMBO. Gentianaceae.

North American plants with white, yellowish or bluish flowers in panicked clusters.

—*Parryi*. Greenish white fls; S. Calif.; 3 ft..... **FRAS-4. 20¢**

FREESIA. (FREE-zee-ah) Iridaceae.

A very popular flower for the greenhouse. Flowers in 10 weeks after planting bulbs and they make choice flowers in the late winter or early spring. They are grown outdoors in S. California where they should be planted in the fall. Seed will produce flowers in second or third year. Order the bulbs early in the year.

—*Luzi*. New type in beautiful new shades and lge fls..... **FREE-2. 50¢**

—*refracta* v. *Buttercup*. Grows 18" high; pure buttercup-yellow..... **FREE-5B. 25¢**

—*Tubergeni Hybrids*. Beautiful range of bright colors..... **FREE-6H. 50¢**

FREESIA CORMS: Offerings will follow in later issues.

FREMONTIA *mexicana*. Flannel-bush. **Oz. \$3.50. FREM-2 (S). 50¢**

FRITILLARIA. (frit-il-LAY-ree-ah) Liliaceae.

Bulbous plants with drooping bell-shaped flowers often checkered in greenish, purple or brown. They can be grown from the bulbs which are offered in the summer bulb lists or they can be grown from seed. They are easily grown in ordinary soil and flower early in the spring.

—*acmopetala*. Fls large, olive-green and purple; rare; 18"; HP..... **FRIT-2. 30¢**

—*cirrhosa*. Yellowish fls checkered purple; 2 ft; HP..... **FRIT-8. 25¢**

—*imperialis*. Purplish brick-red or yellow-red fls; to 4 ft; HP..... **FRIT-11. 25¢**

—*rubra*. Extra red form; 3 ft; HP..... **FRIT-11R. 25¢**

—*meleagris*. Fls checkered and veined with purplish or maroon; HP..... **FRIT-16. 25¢**

—*pallidiflora*. Pale yellow fls spotted inside; 9"; HP..... **FRIT-20. 25¢**

—*puddica*. Yellow Bell. Earliest spring fl; 6"; HP..... **FRIT-22. 25¢**

—*pyrenaica*. Dark purple spotted with green; 18"; HP..... **FRIT-25. 25¢**

—*recurva*. Scarlet checkered with yellow; 2 ft; HP..... **FRIT-26. 25¢**

—*Boylei*. Greenish yellow fls netted dull purple; 2 ft; HP..... **FRIT-28. 25¢**

—*verticillata*. White or yellow fls dotted at base; 18"; HP..... **FRIT-32. 25¢**

—*Fritillaria Blend*. Mixture of above..... **FRIT-X. 25¢**

FUCHSIA. (FEW-shuh) Onagraceae.

They are tender plants grown in the cool greenhouse in the North. They can be bedded out during the summer and in mild climates grown outdoors. They are excellent house plants, very pretty and popular.

—*California Strain*. Crosses from A. F. Society, A and B rated varieties..... **FUCH-1. 50¢**

GAILLARDIA (gay-LAHR-de-ah) BLANKET FLOWER. Compositae.

Annuals, biennials and perennials with showy solitary heads and yellow or red rays. They make very good cutflowers as well as display in the border. Easily grown, doing best in a light open well drained soil. The annuals can be either started indoors or sown in the open ground in April. Most of the common garden varieties belong to the species *aristata*.

G. ARISTRATA: Hardy perennial, easily grown anywhere; comes in many var.

—*Bremen*. Coppery scarlet with yellow tips; pretty..... **GAIL-1B. 15¢**

—*Burgundy*. A rich wine-red variety..... **GAIL-1N. 15¢**

—*GianHi* hybrids. Large flowered strain in many colors..... **GAIL-1H. 15¢**

—*Goblin*. A dwarf compact variety; deep red with golden border..... **GAIL-1G. 15¢**

—*Kobold*. A Swiss novelty with red fls and gold zoning..... **GAIL-1K. 15¢**

—*Monarch Strain*. Very large flowers in a wide color range..... **GAIL-1M. 15¢**

—*Lorenziana*. Ray and disk flowers..... **GAIL-1L. 15¢**

—*Superbun*. Large flowered variety, mixed colors..... **GAIL-1P. 15¢**

—*Yellow Queen*. Pure golden yellow, very pretty..... **GAIL-1Y. 15¢**

—*Tangerine*. Beautiful orange color, true..... **GAIL-1T. 15¢**

—*The Dazzler*. Intense golden yellow with maroon-red zone..... **GAIL-1D. 15¢**

—*Blend of the Above Varieties*..... **GAIL-1X. 15¢**

GAILLARDIA: Continued on Page 198.

You can order your seeds any way you wish, either by writing the full name down of the flower wanted or just using the symbol at the end of the line; it is easier and plainer than just the symbol but be sure to make it very plain and the correct one.

PIONEER SEED COMPANY

DIMONDALE MICHIGAN

RARE FLOWER SEEDS

We list below a very select group of hardy alpine plants, trees and shrub seeds. These will all eventually be included in our regular 2-column listings but are made now due to lack of time. Those that are ligneous or woody plants are marked as "Shrubs", altho some may become dwarf trees.

All Packets are 30¢, unless marked otherwise. Order early as some items are not in large quantity.

Abutilon vitifolium.
Acaena novae-zelandae.
Acantholimon creticum. 50¢
—*glumaceum*.
—*venustum*. 50¢
Acanthus longifolius.
Acet crataegifolium. Shrub. 40¢
—*Hersii*. Shrub. 30¢
Achillea aurea grandiflora.
—*Clavennae*.
—*Lewisii* King Edward).
Aconitum anglicum.
Actaea alba.
—*spicata*.
Adenophora Bulleyana.
—*Farrieri*.
—*warleyense*.
Aethionema coridifolium.
—*pulchellum*.
Agapanthus umbellatus Mooreanus. 45¢
—*species*. (Basutoland). 35¢
Allium afiatuense.
—*albo-pilosum*.
—*alleghericum*.
—*anisopodum*.
—*Farrieri*.
—*giganteum*.
—*karalaviense*.
—*Moly*.
—*marcissiflorum*. 35¢
—*Ostrowskianum*.
—*pulchellum*.
—*Rosenbachianum*.
—*siculum*.
—*sphaerocephalum*.
—*triquetrum*.
—*unifolium*. 35¢
Altroemeria Ligtu Hybrids. 35¢
Alyssum montanum.
—*spinosum*.
Amsoni—*a salicifolia*.
—*tabernaemontana*.
Anacyclus atlanticus.
—*depressus*.
Androsace carnea brigantiaca.
—*Laggeri*. 50¢
—*cyllindrica* x *hirtella*. 50¢
—*hedraeaantha*. 50¢
—*hirtella*. 50¢
—*imbricata*. 60¢
—*lactea*.
—*Mathildae*.
—*obtusifolia*. 30¢
—*pyrenaica*. 50¢
Andryala Aghardii.
Anemone alpina. 30¢
—*sulphurea*. 50¢
—*baldensis*.
—*decapetala rosea*.
—*demissa*. 50¢
—*Lesseri*.
—*magellanica*.
—*Pulsatilla*.
—*alba*.
—*australis*.
—*caucasica*. 50¢
—*Halleri*.
—*Mallenderi*.
—*Native English Form*. 30¢
—*patens*.
—*rubra*.
—*rupcola*. 35¢
—*salavica*.
—*sylvestris*.
—*vernalis*. 50¢
Antennaria aprica.
—*diocia minima*.
—*rosea*.
Anthemis Biebersteiniana.
—*Cupaniana*.
—*Hausknechtii*.
Anthriscum Asarina.
—*glutinosum*.
Aquilegia Buergeriana.
—*caerulea*.
—*clematidiflora*. 35¢
—*discolor*.
—*ecalcaraia*.
—*flabellaia nana*.
—*fragrans*.
—*Hansol Harebell*.
Continued on Page 204

GENTIANA

It is hard to find a group of rockery plants that can surpass the Gentians for their brilliant blue coloring.

Gentiana acaulis is one of the loveliest of the genus and grows like a weed in many gardens. A heavy loamy soil seems to be best for it and if some small stones or chips are mixed in the soil, so much the better.

Another very satisfactory species is *Gentiana septemfida*; it, too likes a moist loamy soil.

The seed does not germinate readily. It is best sown as soon as ripe but as it is not always available, it is then best to stratify the seed in sand during the winter months, at around 35 degrees F. and plant early in the spring.

Seed sown as soon as ripe, germinate the following spring or summer. During the first year little growth is made but after this they grow rapidly.

Note. We have often wondered how many plants a buyer got from this type of seed. As it requires some knowledge in handling, the failures must be great and the present type of magazine makes it possible to give information that could not possibly be given in an ordinary seed catalog or on a seed packet. It might also be better to allow the stratified seed to get a good freeze late in the winter and before planting it out in the seed bed or pot. Possibly some of our readers have tried this out and will find time to write of their experience. Ed.

LITTLE PICKELS.

I note on page 103 that some reader wants seed of *Crassifolia* (Little Pickels). This is a common succulent, *Othonna crassifolia* or more properly, *O. capensis* and as all *Othonnas* are self-sterile and as undoubtedly all plants of this species in this country are descended from one original import, it's very unlikely that any seed is available anywhere. However, the plant is so common I do not see why seed is necessary:

The *Cotyledon oppositifolia*, which I am ordering, has for the past 20 years been known as *Chiastophyllum oppositifolium*, a monotypic genus from the Caucasus.

By Myron Kinnach, Calif.

LILLIES

Mr. W. L. Fulmer, who is chairman of the membership committee of the North American Lily Society, writes, "May I make a suggestion? Lilies can be divided into two types according to seed germination. The quick germinating type if planted in late fall they will appear above ground the next spring or if planted in the spring will appear above ground in a short time. The slow germinating type, if planted in the fall or in the spring will show no top growth until the second spring or early summer."

He also mentions the common practice of planting the seed too deep resulting in poor "germination".

Any one wishing to join the Society can write Mr. Fulmer at 505 Boylston North, Seattle, 2, Wash. The 1954 National Lily Show is to be held in Seattle.

Labiatus: (lay-bee-AY-tus) lipped.

Laciniatus: (las-in-ee-AY-tus) Cut into narrow pieces or holds.

Lactiflorus: (lak-tif-FLOH-rus) Milk-white flowered.

Lanatus: (lan-NAY-tus) Woolly or wool-like.

Laevis: (LEE-viss) Smooth.

CODETIA - GYPSOPHILA

GLOBULARIA (glob-u-LAY-re-ah) Globulariaceae.

Little shrubby plants from the mountains of S. Europe and Asia with blue or white flowers in rounded heads. They are easily grown from seed, in a moist and partly shaded place and also suitable for the rock garden.

- bellidifolia*. Like *cordifolia*..... GLOB-2 (W). 40¢
- incanescens*. Blue, heads $\frac{1}{2}$ " ac; 4"; Italy; HP..... GLOB-3 (W). 40¢
- cordifolia*. Sub-sh; 4"; prostrate; blue fl heads, 1" ac; HP..... GLOB-4 (C). 50¢
- dumulosa*..... GLOB-5 (W). 50¢
- nervegica*. Species from Austria..... GLOB-6. 25¢
- nudicaulis*. Blue heads, $\frac{3}{4}$ " across; 10"; HP..... GLOB-7 (C). 50¢
- trichosantha*. Globe Daisy. Fluffy blue flower heads; 8"; HP..... GLOB-8. 20¢
- vulgaris*. (Willkommii) Blue; 1ft; Caucasus; HP..... GLOB-12 (W). 40¢

GLOXINIA: see *Sinningia speciosa*.

CODETIA, (go-DEE-she-ah) Onagraceae.

Erect annuals with bright showy flowers in red, lilac, purple or white. They are easily grown, best in a light soil and sunny exposure. Seeds can be started indoors or planted where the plants are to grow.

G. GRANDIFLORA: This species is the commonly grown *Codetia*. It comes in many choice varieties both double and single flowers. They all are hardy annuals.

- Carmine*. Double carmine red..... GODT-4M. 15¢
- Charming*. Dwarf; very bright deep satiny pink; 12 inch tall..... GLOB-4C. 15¢
- Cherry Red*. Showy variety..... GLOB-4C. 15¢
- Crimson Glow*. Dwarf; extra dark crimson strain; 12"..... GLOB-4C. 15¢
- Duke of York*. Dwarf; carmine-scarlet; 12"..... GLOB-4C. 15¢
- Kelvedon Glory*. Dwarf; deep glowing salmon-orange; 12"..... GLOB-4C. 15¢
- Mauve Queen*. Beautiful new mauve color; dwarf; 12"..... GLOB-4C. 15¢
- Fantasy*. Full double flowers..... GLOB-4C. 15¢
- Mauve*. Full double flowers..... GLOB-4C. 15¢
- Orange Glory*. NEW, pure orange, double..... GLOB-4C. 15¢
- Pink*. Double flowers..... GLOB-4C. 15¢
- Purity*. Glistening solid snow-white; 12"..... GLOB-4C. 15¢
- Rosemunde*. Beautiful rose-pink; 12"..... GLOB-4C. 15¢
- Sybil Sherwood*. Pretty salmon-pink; 12"..... GLOB-4C. 15¢
- Thunderbolt*. Vivid deep crimson with frilled petals; 12"..... GLOB-4C. 15¢
- White Swan*. Large flowering satiny white; 12"..... GLOB-4C. 15¢
- Dwarf Single Mixed*. Above varieties mixed..... Oz. 50¢..... GLOB-4C. 10¢

DOUBLE DWARF VARIETIES:

- Mauve Queen*. NEW, beautiful rich mauve; double; 12"; HA..... GLOB-4C. 15¢
- Rose Queen*. Large double flowered..... GLOB-4C. 15¢
- Sweetheart*. Azaleaflora; bright shell pink; 12"..... GLOB-4C. 15¢
- Sybil Sherwood*. Double flowered; pretty salmon-pink; 12"..... GLOB-4C. 15¢

TALL UPRIGHT SINGLE VARIETIES: These are nice for border, bedding; 2-3 ft tall.

- Duke of York*. A rich scarlet..... GLOB-4C. 15¢
- Fairy Queen*. White and crimson..... GLOB-4C. 15¢
- Gloriosa*. Lord Roberts' Blood-red..... GLOB-4C. 15¢
- Pearl Queen*. Bluish pink, blotched carmine..... GLOB-4C. 15¢
- Scarlet Queen*. Brilliant scarlet..... GLOB-4C. 15¢
- The Bride*. Crimson and white..... GLOB-4C. 15¢
- Tall Upright Single Mixed*..... GLOB-4C. 15¢

WHITNEY: Very compact strain, dwarf and double, also known as *Azaleaeflora*.

- Maiden Blush*. Double rose pink..... GLOB-4C. 15¢
- Begonia Rose*. Compact, brilliant rose..... GLOB-4C. 15¢
- Lady Albemarle*. Compact, crimson..... GLOB-4C. 15¢
- Whitney Blend*. All compact double varieties..... GLOB-4C. 15¢

GOMPHRENA. (gom-FREE-nah) Amaranthaceae.

Useful for bedding and cutflowers as well as for dried or everlasting flowers. ALL HA

G. GLOBOSA: Start seeds indoors for better germination; flowers are clover-like.

- Rose*..... GOMP-2Z. 15¢
- Striped*..... GOMP-2S. 15¢
- Orange-yellow*..... GOMP-2Y. 15¢
- White*..... GOMP-2W. 15¢
- Purple*..... GOMP-2P. 15¢
- Piccole*. A dwarf form with wine-red flowers..... GOMP-2C. 15¢
- Mixed*. Above varieties mixed..... GOMP-2X. 10¢

GORDONIA. (gor-DOH-nee-ah) Theaceae.

Trees and shrubs from warm regions. The American species (*G. alata*) known as the Franklinia tree, is rare and not many are known. It requires an acid soil and is hardy up to Mass. We wish reports on them along the northern planting area as we would like to map this line in a future issue.

- alata*. FRANKLINIA TREE. To 20 ft; fls 3" ac..... GODO-1. Seeds 3¢ each.

100 Seeds \$2.50; 1,000 \$13.00

GOURDS.

Under this heading are listed the cucubits that have hard shells and grown for ornament. They may be divided into large small fruited varieties. They are very ornamental, are easily grown from seed planted outdoors as soon as the soil is warm. If started indoors, grow them in pots as they resent root disturbance. They will stand no frost. See articles during the fall months as to harvesting, etc.

SMALL FRUITED VARIETIES: Mainly *Cucubita pepo*.

- Egg, White*. About the size of a lemon..... GORD-1E. 15¢
- Flat Striped*. Dark green with yellow stripes..... GORD-1F. 15¢
- Miniature*. Fruits round, dark green and striped yellow..... GORD-1M. 15¢
- Orange*. Orange color and shape..... GORD-1R. 15¢
- Pear-bicolor*. Half green, half yellow; pear-shaped..... GORD-1B. 15¢
- Pear*. White fruits; pear-shape..... GORD-1P. 15¢
- Pear Striped*. Dark green striped with longitudinal white bands..... GORD-1L. 15¢
- Spoon*..... GORD-1S. 15¢
- verrucosa*. Small green, very warty fruits..... GORD-1V. 15¢
- Small Fruited Varieties Mixed*..... GORD-1X. 10¢

LARGE FRUITED VARIETIES: Mostly *Cucurbita leucantha*.

- Apple Shaped*. Green..... GORD-2A. 15¢

GOURDS: Continued on Page 201.

PIONEER SEED COMPANY

DIMONDALE MICHIGAN

GRINDELIA - HALESLIA - HEBE

GOURDS: Continued from Page 200.

—Bottle Shaped. Green.....	GORD-2B. 15¢
—Dipper.....	GORD-2D. 15¢
—Hercules Club.....	GORD-2H. 15¢
—Nest Egg.....	GORD-N. 15¢
—Orange.....	GORD-2G. 15¢
—Pear.....	GORD-2P. 15¢
—Turk's Cap.....	GORD-2X. 10¢
	Oz. 25¢; 1/4 lb. 90¢

GREVILLEA robusta. Silk Oak. GH pot plant.....Oz. \$1.80; lb. \$12.00 GREV-20 (S). 50¢

GRINDELIA. (grin-DEE-le-ah) GUM PLANT. Compositae.

Western U. S. perennials bearing large yellow ray or disk flowers and doing well on poor soils.

—suarrosa. Yellow fls 3/4" across; 2 ft; HB or HP..... GRIN-10. 15¢

GYMNOCLADUS. (jim-NOK-lad-us) KENTUCKY COFFEE TREE. Leguminosae.

The seed coat is impermeable; soak seed 2-4 hours in concentrated sulfuric acid; small lots file seed coat or 2-6 minutes in hot water at 195 degrees F; sow in spring.

—dioicus.....Oz. 25¢; lb. \$1.20.....GYMC-1 (S). 15¢

GYNERIUM argenteum: see Cortaderia Selloana.

GYPSOPHILA. (gip-SOFF-il-ah) BABY'S BREATH. Caryophyllaceae.

Hardy annuals and perennials of great value both as cutflowers and plants in the rock garden or border. The flowers are small and numerous, in yellow, white or rose. G. paniculata is also grown for its dried flowers which are used in bouquets, etc.

G. ELEGANS: Hardy annuals grown mainly for cutflowers; they are very valuable for this purpose. Succession planting can be made every week during the spring months. In the South they should be planted in the fall; blooms in 6-8 weeks from planting; 2 ft.

—Carmine..... GYP-5C. 10¢

—Crimson..... GYP-5S. 10¢

—Rose..... GYP-5Z. 10¢

—Blend of the Above Colors..... Oz. 40¢ Lb. \$2.00 GYP-5X. 10¢

GYPSOPHILA SPECIES:

—acutifolia. White, larger than paniculata; Caucasus; HP..... GYP-1 (W). 35¢

—cerastioides. Mouse-ear G. Downy, cr. 3"; fls white; RG, HP..... GYP-3. 20¢

—Manginii. Mongolian G. Rosy white fls in small panicles; HP..... GYP-12. 25¢

—muralis. Rose fls; dwarf, good RG; HA..... GYP-13. 20¢

—Oldhamiana. Bright flesh pink fls; mid-summer to frost; 3 ft; HP..... GYP-15. 20¢

—pacific. Pale rose or purple fls; 3"; Siberia; HP..... GYP-16. 20¢

—paniculata. Baby's Breath. Comes in several varieties and makes an airy display in the border with its mass of small white flowers; very popular; makes fine dried flowers.

—Snowstorm. Grows 3' and in nice formed plants..... GYP-18TS. 15¢

—Single White. Used mainly by market growers; Oz. 25¢ Lb. \$4.25..... GYP-18. 15¢

—repens. Pink. Trailer to 6'; blooms early; HP..... GYP-21P. 15¢

—White. The white form..... GYP-21W. 15¢

HALESIA. (hay-LEE-zee-uh) SILVER-BELL, SNOWDROP TREE. Styracaceae.

Attractive shrubs or trees, transplants easily. Seed germinates second year after planting or they may be stratified 2-4 months at 55-85 degrees F. and then at 33-40 for 2-3 months. Fairly good germination with cold treatment alone.

—carolina. (tetraptera) W. Va to Fla; hardy North; Oz. 35¢; lb. \$2.00 HALE-1 (S). 25¢

—monticola. Hardy North; 100 ft; Oz. 40¢; lb. \$3.20..... HALE-4 (S). 25¢

HALIMIUM alyssoides. Bright yellow, 1 1/2" ac; HHP..... HALI-1 (W). 40¢

HAMAMELIS. (ham-am-MEEL-iss) WITCH HAZEL. Hamamelidaceae.

Germinates best in damp rich soil, partial shaded beds. Usually germinates second year; stratify at 65-85 degrees F. for 2 months then 3 months at 40 degrees; this is the only treatment known to partially break its dormancy.

—japonica. 30 ft; Japan.....Oz. 95¢; lb. \$6.00..... HAMA-2 (S). 50¢

—vernalis. Tall form; 6 ft.....Oz. \$2.00;..... HAMA-5 (S). 50¢

—Zuccariniana. Tree-like; calyx greenish yellow inside..... HAMA-2Z (W). 50¢

—tomentella. Bush type.....Oz. \$2.00..... HAMA-5T (S). 50¢

—virginiana. 15 ft shrub; attractive for its late bloom; HSH..... HAMA-7 (W). 40¢

HAPLOPAPPUS corinopifolius..... HAPL-2 (W). 50¢

HEBE. (HEE-bee) Scrophulariaceae.

Shrubs and small trees, mainly from New Zealand, formally classified with the Veronicas. They can be grown out doors in mild climates and some under glass in the North; some make nice evergreen hedges.

—Bollonsii. Pale lilac; in 4" racemes; 5 ft; N. Zealand; HSH..... HEBE-10. 30¢

—macrantha. Rare; largest flowered; pure white; sun; 12"; HSH..... HEBE-46 (W). 40¢

HEDYCHUM. (hee-DIK-e-um) GINGER LILY. Zingiberaceae.

Robust tropical perennial plants mostly from India. Grown in the GH or in the far South. Flowers are showy and fragrant; rich soil and plenty of moisture.

—coccineum v. augustifolium. Shorter lvs; salmon-pink fls 6"; TP..... HEDY-4A. 25¢

—coronarium. Garland fl; white; 6'; very fragrant; TP..... HEDY-5. 25¢

—densiflorum. White, fragrant fls; 6 ft; TP..... HEDY-6. 25¢

—gracile. Greenish white fls; 2 ft; TP..... HEDY-13. 25¢

—spicatum. Yellow fls; 3 ft; TP..... HEDY-16. 25¢

—thysiforme. White fls in dense spikes; 6"; TP..... HEDY-18. 25¢

—Hedychium Blend. All kinds mixed..... HEDY-X. 25¢

HELENIUM. (he-LEE-ne-um) Compositae.

Mostly perennial plants; some annual, flowering in the summer and fall. Thrive in fairly rich soil and a sunny position; makes a fine plant in the border or wild garden. Easily grown from seed started early or to late July.

—autumnale. Heads 2" ac; lemon-yellow. disks yellow; 6 ft; HP..... HELE-2. 20¢

—Hoopesii. Fls. 3" ac; 3 ft; HP..... HELE-5. 20¢

—Helenium Blend. All kinds in stock..... HELE-X. 20¢

PIONEER SEED COMPANY — DIMONDALE MICHIGAN

Iberis or Candytuft

One of the most easily grown and showy of hardy rock garden plants. In growth, it forms a mass of semi-shrubby stems clothed with small evergreen leaves which are smothered in the spring with small white flowers, making a most charming display.

If planted with the perennial Alyssum (saxatile) and mauve Aubrietia, an attractive combination is formed.

All Iberis sempervirens thrive in a well drained loamy soil. Where hanging plants are wanted, as on the top of a wall, they are ideal. They thrive, too, in the debris of an old wall or ruin or on a dry sunny bank where not many other plants would exist.

Seed can be started early in the cold frame or planted in the open ground as soon as workable.

I. gibraltarica is one of the most ornamental of the genus. It is not so commonly grown and should be given a warm sheltered sunny location. I. sempervirens is a compact, carpet-like, pale mass, covered with small white flowers.

ERINUS ALPINUS

Plant Erinus alpinus with white flowering plants for best effect. It is a pretty creeping plant and especially attractive on high places in the rocky, between rocks where it will form "rivers" of bloom. Its flowers are a purplish color.

It grows best in a light, well drained soil and will live longer if sand has been dug into the soil. Sow seeds either late in the autumn or early in the spring. It reseeds readily. It is native of the mountains of Switzerland and southern France.

PERIANNIAL BROWALLIA.

Browallia speciosa HOOK. (not to be confused with B. speciosa HORT.) Native of the Tolina Mountains in India; this is a semi-shrub, about 18 inches tall with very dark green lanceolate leaves and axillary, deeply five-lobed dark blue flowers with white throat. They are not hard to grow and like a loamy, rather heavy soil and a shady location. Optimum winter temperature about 40 degrees F. or can be kept outdoors when a heavy snow cover can be expected before the ground is frozen.

By S. L. Solymosy, Ga.

SALVIA SEED

Now is the time for the greenhouse grower to lay in his supply of fresh SALVIA SEED. We have a good stock of fresh 1951 crop.

	Per Oz.	Lb.
AMERICA.	\$4.50	\$45.00
An early 18 inch variety. (Globe of Fire).		
BLAZE OF FIRE	5.00	60.00
Earliest, 12 inches; bright scarlet.		
BONFIRE.	3.50	40.00
Compact 18 inch, early. (Clara Bedman).		
HARBINGER.	4.00	45.00
Extra early, 16 inches; scarlet.		
SPLENDENS.	3.00	35.00
Standard late tall scarlet.		
ST. JOHN'S FIRE.	6.00	75.00
Extra early bright scarlet, 10 inches, uniform and compact; excellent strain.		
ZURICH.	4.00	45.00
Early red; 18 inches.		

1/4 Oz. at Ounce Rate; 1/4 Lb. at Lb. Rate.

Salvia should be held at around 60 degrees F while germinating; many failures are due to too cold a temperature.

PIONEER SEED COMPANY

IRIS

By Walter Welch, Indiana

For two years the Dwarf Iris Club has conducted a Dwarf Iris Symposium, practically 150 members voting, which has been of great value in selecting the superior varieties out of a maze of old and new, unnamed, duplications, misnomers and unauthenticated names.

Having achieved this major job with reasonable satisfaction, it was suggested that a further Classification by color would be a distinct benefit for the uninformed growers.

We have tackled this job with much hesitation, knowing full well its possibilities for error and criticism, however the listing below has received the approval of the membership, and there is no better authority on this subject.

It has been our attempt to place the varieties in order of quality but individual taste will enter into this appraisal, so that no arbitrary decision is intended. Some varieties are border-line problems, and their placement under color headings is quite difficult. In fact the selection of the color sections are a problem of no mean proportions. For example the "Mulberry Purple" section is not entirely satisfactory. But at our present stage of development, considering that just a short time ago the colors in Dwarf Iris consisted of just purples, yellows and a few near whites, it is with deep satisfaction that we are able to submit such a comprehensive array of color forms.

This is the official Color Classification of the "50 BEST DWARFS" as authorized by the Dwarf Iris Club.

YELLOW
Keepsake
Path of Gold
Tiny Treasure
Sound Money
Ylo
Burchfield
Harbor Lights
Prairie Gem
Yellow Frills
Orange Queen

BLUE PURPLE
Blue Mascot
Balkana
Buzzer
Fragrance
Reflection

VARIEGATA
Primus

WHITE
Fiancee
Schnekuppe
Fairly
Bouquet

FALL BLOOMER
Lt. de Chavagnac

RED BLEND
Heatherbloom
Tampa
Little Jewel
Neola

MULBERRY PURPLE
Beauty Spot
Bronya

CREAM
Moon Gleam
Cream Tart

BLACK PURPLE
Marocain
Niobe
Black Midget

WHITE BICOLOR
Little Elsa
Silver Elf

VIOLET
Violet Gem
Sulina

PINKISH
Mist O'Pink
Pink Mauve
Rose Mist

BLUE
Blue Band
Azurea
Coerulea

RED PURPLE
Atroviolacea
Tiny Tony
Alinda
Endymion
Sass Dark Ruby
Tony
Graminea

Wee Admiral

I must draw your attention to the distinction between blue and blue-purple. Under the blue class are three pumila hybrids, as distinct from the blue-purple which comes from *I. chamaeiris*. *I. pumila* is the only Iris species which has pure blue as a basic color segregate, all other Iris have an approximate blue as a result of dilution of purple or violet with white.

INULA - IPOMOEA - IRIS

INCARVILLEA Continued from Page 205.

drained, rich light soil, and sunny place. Plant seeds up to August for next season flowering; give winter protection in the North.

- Delavayi*. Rose-purple fls, yellow tubes; very nice; 2 ft; HP..... ICAR-2. 20¢
- grandiflora brevipes*. RG; crimson-purple fls, gloxinia-like; 10"; HP..... ICAR-4B. 35¢
- Olgae*. Pale pink fls 1" ac; shrubby; to 3 ft; HP..... ICAR-7. 25¢
- variabilis*. Cream to pale rose tubular s, ever-bearing; easy; HA..... ICAR-9. 25¢
- Mixed *Incarvilles*. All kinds mixed..... ICAR-X. 25¢

INDIGOFERA. (in-di-GO-fe-rah) **INDIGO**. Leguminosae.

Ornamental plants for borders and in shrubbery, many of which are not hardy in the far North. Some can be grown in the greenhouse or for window treatment.

- Dosua*. Red fls in racemes; low shrub; India; TP..... INDI-5. 25¢
- Poianinii*. Lilac-pink fls in racemes; hardy in North; sh to 5 ft..... INDI-13. 25¢

INULA. (IN-yu-la) **Compositae**.

Showy herbaceous perennials, most of which are hardy in the North; with large daisy-like heads of yellow or orange flowers. They make a brilliant display. Grows well in average soil but requires a sunny position.

- glandulosa*. Solitary yellow heads 4 ft; HP..... INUL-6. 15¢
- hirta*. Yellow heads, 2" ac; July-August; to 15"; HP..... INUL-10 (C). 40¢
- Oculus-Christi*. Pretty yellow heads; 2-3 ft; HP..... INUL-17. 25¢
- Royleana*. Orange-yellow heads, one of the best; 2 ft; HP..... INUL-19. 25¢
- salicina*. Golden yellow, 1½" ac; 2 ft; HP..... INUL-20. 20¢
- V. aspera*..... INUL-20A. 25¢
- salicifolia*..... INUL-27. 25¢
- thapsioides*..... INUL-23. 25¢
- Inula* Mixture. All species mixed..... INUL-X. 20¢

IPOMOEA. (y-poh-MEE-ah) **MORNING GLORY**. Convolvulaceae.

Ipomoeas are mainly twining annual and perennial vines. The genus is widely distributed and comes in many kinds and habits. They are all easily grown from seed; for better germination file or cut a small notch in the outer covering. They are all tender and should be planted after all danger of frost is past. See *Convolvulus* and *Quamoclit* for other forms closely related.

I. PURPUREA: The common garden Morning Glory; grows 6-8 feet high and makes ideal vines for fences, etc. Best in rather dry sandy soil; not too much watering.

- Blue Star*. NEW a well recommended blue with white center..... IPOM-1B. 20¢
- Cornell*. Beautiful cornelian red, bordered with white; pretty green fol..... IPOM-1C. 15¢
- Darling*. Striking wine-red Scarlett O'Hara with snowy white throat..... IPOM-1D. 25¢
- Heavenly Blue*. Sky-blue shading golden yellow in throat; early strain..... IPOM-1H. 15¢
- Peatly Gales*. Free blooming pure white, faint creamy sheen in center..... IPOM-1P. 15¢
- Rose Marie*. Only double; deep rose; early flowering..... IPOM-1RM. 20¢
- Scarlet O'Hara*. Dark wine-red; attractive foliage..... IPOM-1S. 15¢
- White Magic*. Large fleecy white blending to cream in throat..... IPOM-1W. 15¢
- ed, White and Blue*. The three colors equally mixed..... IPOM-1RWB. 20¢
- Large Flowered Types Mixed*. Above varieties..... Oz. 75¢..... IPOM-1X. 15¢

NIL: (*imperialis*) The well known Japanese Morning Glory. They come in many colors and make a beautiful display.

- Rose Pink spotted Snow White*..... IPOM-19RS. 25¢
- Bright Scarlet edged White*..... IPOM-19SW. 25¢
- Red spotted White*..... 19RW. 25¢
- New Hybrids*. These have just been received from Japan..... IPOM-19HX. 25¢
- Mixed*. This contains many choice colors..... IPOM-19X. 20¢
- Light Blue edged Delicate White*..... IPOM-19BW. 25¢
- Pink*..... IPOM-19PK. 25¢
- Brown*..... IPOM-19B. 25¢
- Carmine edged Snow White*..... IPOM-19CW. 25¢
- Red*..... IPOM-19R. 25¢
- Lilac with Pink Stripes*..... IPOM-19LP. 25¢
- Purple*..... IPOM-19P. 25¢

- bona-nox*. (*Calonyction aculeatum*) Moonflower; white fls..... IPOM-4. 15¢
- dissecta*. Twining per; fls white with purple throat; Texas..... IPOM-8. 15¢
- hederacea, superba*. Improved form; blue or pale purple; HHV..... IPOM-10S. 20¢
- hederifolia*: see *Quamoclit coccinea* variety.
- indheimi*..... IPOM-16. 25¢
- noctiflora*: see *Calonyction aculeatum*.
- setosa*. Brazilian M. G. Lge pink fls; no thorns; HHV..... IPOM-34. 35¢

IRIS. Iridaceae.

The growing of Iris from seed is a very interesting undertaking. We try to make available seeds of various species, many of which we are growing ourselves. There are so many species that should be made available, that we hope those growing them will contact us, that others also may enjoy them in their gardens. For Iris roots see the special lists in the early summer issues; we grow ourselves all the worthwhile varieties. Sow seed after ripe or in the early spring.

- Alaskan Collected Seed*..... IRIS-1. 20¢
- alata*. (Juno) Stemless; Spain..... IRIS-3 (F). 50¢
- aurea*: see *corcea*.
- bracteata*. Yellow, veined brown-purple, S yellow; Ore..... IRIS-28. 25¢
- Hybrids*..... IRIS-225H. 25¢
- caucasica*..... IRIS-36 (F). 50¢
- Chamaeiris Mixed*..... IRIS-39. 25¢
- chamaeiris*. (Pogon) About 10"; several colors..... IRIS-38 (F). 35¢
- chryso-graphes*. (Apogon) Deep violet, half with golden veins..... IRIS-42 (E). 50¢
- hybrid*. Crossed with *I. tenax* (?)..... IRIS-42H. 25¢
- rubellia*. Dwarf plum red..... IRIS-42R. 25¢
- Clarkei*. Much like *siberica*; Himalayas; HP..... IRIS-50. 25¢
- crocea*. (Apogon) Beardless; golden yellow fls..... IRIS-57 (F). 50¢
- dichotoma*. Siberia to N. China..... IRIS-63. 50¢
- Douglasiana*. Calif-Ore; 12-15"; fls variable..... IRIS-65. 25¢
- ensata*. China; grows in close clumps; lilac to white..... IRIS-68. 50¢
- Suwarowii*..... IRIS-68S. 50¢
- Peking form*..... IRIS-68P. 50¢
- foetidissima*. (Apogon)..... IRIS-77 (C). 50¢
- Forrestii*. Hybrids; native of S. W. China; 18"; HP..... IRIS-82H. 25¢

PIONEER SEED COMPANY — DIMONDALE MICHIGAN

ISATIS - JASONI - KNIPHOFIA

IRIS: Continued from Page 206.

—Kaempferi. Japanese Iris Mixed	IRIS-129. 25¢
—Japanese Iris Mixed. Tokyo strain	IRIS-XJ. 20¢
—Pseudacorus. (Apogon) Bright yellow.....	IRIS-191 (F). 40¢
—sibirica. (Apogon) Comes in many varieties.....	IRIS-115 (F). 35¢
—Sintenisii. Asia Minor; purple flowers.....	IRIS-217. 50¢
—spuria aurea. Native of Algeria to Persia; yellow form.....	IRIS-225A. 35¢
—versicolor. Native of Minn. up into Canada; HP.....	IRIS-252. 25¢

ISATIS. (Y-sah-tis) **WOAD.** Cruciferae.

Annual, biennial and perennial plants. They are erect or branching with small yellow flowers from May to July; native of Med. regions; easily grown.

—glauca. For border; fls in large yellow clusters; 4 ft; HP..... **ISAT-3.** 15¢

—**SOLOMA kohleria.** (hersutum floribundum); 4 ft; GH; TP..... **ISOL-5.** 50¢

JASONI. (jaz-e-OH-nee)...**Campanulaceae.**

Annual and perennials with blue or white flowers borne in heads and useful in the border or rocky; all are easily grown.

—perennis. Blue flowers in heads 1" ac; 1 ft; HP..... **JAS-5.** 15¢

KALANCHOE. (kal-an-KOH-ee) **Crassulaceae.**

Succulent perennials, shrubby in form with fleshy oval leaves and a mass of bright colored flowers that last for several weeks. Grown outdoors in the South and in the greenhouse in the North. For winter flowers start seed in the spring, using a gritty soil, sunshine, and plenty of water when growing.

—Blossfeldiana v. Ernest Thiede. Bright red fls; 1 ft; fine; TP..... **KALA-3T.** 35¢

—lanceolata. Orange fls on 2 ft stems; succulent; TP..... **KALA-13.** 35¢

—thyrsiflora. Yellow fls 1/2" long; 2 ft; TP..... **KALA-30.** 35¢

—Kalanchoe Mixture. All above mixed..... **KALA-X.** 25¢

KNIPHOFIA. (nip-HOH-fe-ah) **TRITOMA.** Torach Lily, Poker Plant. Liliaceae.

Most striking garden plants, flowering in the fall, with their dense cigar-shaped spikes of red or yellow tubular flowers. Seed sown indoors very early will flower same season, otherwise seed can be sown in August for next season flowering. In severe climates the plants can be dug up and stored in a frost free cellar.

—Pfizer's Hybrids. Large brilliant reds; HP..... **KNIP-1P.** 15¢

—Early Hybrids. American grown strain; HP..... **KNIP-1E.** 15¢

—Uvaria Hybrids. Large flowers, mixed colors; popular; HP..... **KNIP-18.** 15¢

—Royal Castle Hybrids. A new color range and perfect form; HP..... **KNIP-18R.** 20¢

—Lubbe's Selections. Extra choice German strain; HP..... **KNIP-18L.** 20¢

—verricrea Hybrids. Creamy white and coral-red fls; early; HP..... **KNIP-19.** 15¢

—Kniphofia Mixture. All the above mixed..... **KNIP-X.** 15¢

LACTUCA. (lak-TEW-kuh) **Compositae.**

Tall annuals and perennials of which only a few have ornamental value. The garden Lettuce belongs to this genus.

—Bourgei. Bracts and rays lilac or blue fls; 6 ft; HP..... **LACT-2(C).** 30¢

LARKSPUR. **ANNUAL DELPHINIUM.** Ranunculaceae.

Listed here are the so-called annual garden Larkspurs. There are various types or strains and while usually grown as annuals, they are really biennials. In the South seed should be sown in the fall and in the North sow either late in the fall or real early in the spring, where plants are to grow. Usually the seed is drilled in rows 2 to 2 1/2 feet apart. They are especially used for cutflowers and do best in the cool part of the season; for good germination the seed requires a cold period and thus fall sown seed always germinates better; this is one reason for poor germination.

COCKADE STRAIN: A new type especially liked by commercial growers. Tall, symmetrical plants bearing long branches of full double florets; 4 ft. tall, HA.

—Pastel Shades. Soft pastel colors correctly mixed for cutting..... **LARK-2P.** 10¢

—Blue. Rich lilac-blue color..... **LARK-2B.** 10¢

—White Cockade. Pure white..... **LARK-2W.** 10¢

—Cockade Mixed. Correct blend for cutflowers..... **LARK-2X.** 10¢

All Cockade Type: Oz. 60¢; 1/4 lb. \$2.00; 1 lb. \$7.75. Prepaid.

GIANT IMPERIAL STRAIN: Tall, upright, compact basal branching in habit and very popular for cutting. Large flower spikes of double florets; 4-5 ft.

—Blue Bell. Beautiful mid-blue..... **LARK-3B.** 15¢

—Blue Spire. Deep Oxford blue..... **LARK-3S.** 15¢

—Carmine King. Improved; deep carmine-rose; holds its color..... **LARK-3C.** 15¢

—Dazzler. Early flowering bright carmine..... **LARK-3D.** 15¢

—Exquisite Rose. Beautiful rose pink..... **LARK-3R.** 15¢

—Gloria. Deep rose on salmon..... **LARK-3G.** 15¢

—Los Angeles. Brilliant pink on salmon..... **LARK-3L.** 15¢

—White King. Pure white; large double florets..... **LARK-3W.** 15¢

—Miss California. New, deep rose on salmon..... **LARK-3M.** 15¢

—Giant Imperial Mixed. In correct blend for cut flowers..... **LARK-3X.** 15¢

All Giant Imperials: Oz. 80¢; 1/4 lb. \$3.00; 1 lb. \$9.50. Prepaid.

LATHYRUS. (LATH-e-rus) **PRENNIAL PEA.** Leguminosae.

A large genus of vines and erect plants, both annual and perennial. The perennials require no particular care but the annuals should have a deep moist soil and sunshine. Keep seed pods picked for a longer blooming period.

—cyaneus. Herb; deep blue; sun, well drained soil; 12 in; HP..... **LATH-7(W).** 30¢

—latifolius. Perennial Pea. Vine to 9 ft; white, red, purple and rose; HP..... **LATH-15.** 15¢

—Pink Beauty..... **LATH-16P.** 20¢

—Rose Pearl..... **LATH-16R.** 20¢

LEONOTIS. (lee-on-NOH-tiss) **LION'S EAR.** Labiatae.

Annual and perennial plants or shrubs grown in the far South or in the greenhouse in the North, where they can be started indoors and grown outside during the summer, flowering in November and December.

—Leonurus. Showy red-yellow or orange-red fls; 6 ft; TP..... **LEON-6.** 30¢

LEONTOPODIUM. (le-on-toh-POH-de-um) **Compositae.**

Low herbaceous tufted and woolly perennials; leaves basal; flowers in small heads.

—alpinum. Edelweiss; fine rocky or indoors in pots; sandy soil; HP..... **LEOT-1(C).** 30¢

Seedlings best raised in September and wintered over in pots in a cold frame.

In planting out place pieces of stone around base of the plants.

PIONEER SEED COMPANY — DIMONDALE MICHIGAN

Growing Iris from Seed

Since reading up on hybridizing Iris, I have come to wonder if anyone is breeding to stabilize the seed strains for people to raise for their own gardens. Quoting Sidney Mitchell in his book "Iris for Every Garden": "In the present situation, it is relatively easy to raise batches of seedlings of such high quality that many may be selected for one's own garden. A cross of Snow Flurry by Chivalry gave so many lovely blues of different shades that it was hard to select from them. A crossing of a couple of the new tangerine-bearded pinks will certainly give the amateur a lot of attractive pink flowers for his own garden."

Then again, quoting Leslie Caves in "The Iris": "I have reluctantly omitted the beautiful Helen McGregor (from his list of desirable parents for blues) as, although its seedlings are almost always of high quality, many of them bear a very strong family resemblance."

Of course, this is a complicated subject, but statements like the above seem to give a glimmer of something that could give great pleasure to a great many gardeners who cannot afford the grand new varieties and who delight in raising their own in any case.

Your magazine is a continuing delight to me. I am still waiting for your Iris listings, though.

By Mrs. F. W. Warburton, Mass.

Note: We are glad to get most of the Iris seed listed in this issue but there is still some 10-15 more species to be added and these will be included in the next time around for the seed list. We might also mention again about the seed listings which run from one issue to the next; we have letters asking that the complete list be in one book. That would be nice, if possible, but there so many seeds and almost every day brings in new additions that it would be impossible to get them listed in one book and at one time. Then, too, it simply is impossible to publish such a listing at present prices, unless there was a charge for the book; to solve this problem, we decided to make it as near a monthly affair as possible, which in the end is of much more value and help to our readers and the \$2.00 charge for 12 issues barely covers the handling charges; the postage alone runs about 60 cents, in fact, if the magazine is not worth the \$2.00 then it would not be worth sending it out gratis.

Possibly Walter Welch will have some remarks on this interesting Iris question, as probably some other reader who has given time to Iris breeding.

GROWING PALMS FROM SEED

Seed may be sown any time during the year, early spring, preferably. Cover the seeds about their own depth of soil, with a good loamy soil, 2 parts and one part of sharp sand for the strong growing species and for the small and slender species add a small portion of peat to the mixture.

The seed pans or trays should be kept moist and over a good bottom heat. Moss is best in the bottom of the pans and use no broken crocks. Pot up in the smallest size pots as soon as one leaf has formed and place in a good warm house. Seed germinates in 2-3 months and usually are ready to pot up in 6-8 months.

After the January issue there will be very few free copies mailed out; unlike the government, we can see the bottom of the money chest; subscribe if you wish every issue.

RARE FLOWERS

Continued from Page 197

- longissima.
- pyrenaica.
- Reuteri.
- scopulorum. 35¢
- transylvanica.
- truncata.
- Species Mixed.
- Arabis blepharophylla.
- Lyalii.
- Arenaria balearica.
- gracilis.
- Kotschy. 35¢
- Ledebouriana.
- montana grandiflora.
- pinifolia.
- purpurascens.
- Armeria alpina.
- Ardenholm Hybrid.
- Bee's Ruby.
- caesalpina.
- caespitosa.
- Bevan's Variety. 35¢
- corsica.
- latifolia Jones' Variety.
- leucocephala.
- maritima Lauchiana.
- Forms, Mixed.
- mauritanica.
- rigida.
- Welwitschii stenophylla.
- Arnica alpina. 35¢
- montana.
- Artemisia lanata pedemontana.
- Arum creticum. 50¢
- italicum.
- pictum.
- Asphodeline lutea.
- Aster alpinus.
- albus.
- Beechwood.
- Andersonii.
- diplostephioides.
- Farreri.
- himalaicus.
- lichiangensis.
- Purdumii.
- Species, Ludlow-Sheriff No. 17,275.
- No. 17,328.
- No. 21,465.
- Wargrave Variety.
- yunnanense Napsbury.
- Astrantia major.
- Species Mixed.
- Atiropa Belladonna.
- Baptisia australis.
- Bellium minutum.
- Beckheya macrocephala. 35¢
- Billardiera longiflora. Shrub. 40¢
- Borago laxiflora.
- Boykinia Jamesii.
- Bruckenthalia spiculifolia. Shrub. 35¢
- Bupleurum ranunculoides.
- Bupthalmum salicifolium.
- Calceolaria biflora.
- tenella.
- Camassia Cusickii.
- Campanula alliarifolia.
- Aucherii. 40¢
- barbata.
- carpatia Convexity.
- Loddon Fairy.
- turbinata.
- pallida.
- Forms, Mixed. Best named var'ys.
- cochlearifolia.
- alba.
- Formaneckiana.
- glomerata acaulis.
- incurva.
- Patience Bell.
- pilosa superba.
- rhomboidalis.
- rotundifolia. Very fine form.
- thyrsoides. 35¢
- velutina.
- Species Mixed.
- Cannabis gigantea.
- Carex atrata.
- Carolina acaulis.
- Celastrus articulatus hermaphroditus. 50¢
- Shrub.
- Celmisia Webbii.
- Centaurium scilloides (Erythraea Massonii)
- Cephalaria Tchihachewii.
- Cerastium alpinum lanatum. 35¢
- Cercis siliquastrum. Shrub.
- Cerinthe minor.
- Cheiranthus species. Ludlow-Sheriff No. 21,182.
- Chelidonium majus.
- Chrysanthemum alpinum.
- Cistus Aitchleyi. Shrub. 35¢
- canescens albus. Shrub.

Continued on Page 205.

HIERACIUM - HOLLYHOCKS

HIBISCUS: Continued from Page 203.

- Trionum. Flower-of-the-Hour. Yellow or white, dark centers; 2 ft; HA HIBS-45. 25¢
- Moscheutos. Pink, rose or white fls; 8 ft; HP..... HIBS-28. 25¢
- alba. White flowers..... HIBS-28A. 25¢
- Hibiscus Blend. All species and varieties..... HIBS-X. 20¢
- pramutabilis. Similar to H. mutabilis; broadersepals; China..... HIBS-33. 25¢
- militaris. White or pink fls, purple centers, 5" ac; 6 ft; HP..... HIBS-27. 25¢
- Golden Bowl. Golden yellow Hybrid..... HIBS-28GB. 25¢
- coccineus..... HIBS-5. 25¢

HIERACIUM. (hy-er-AY-shi-um) Compositae.

Perennial plants with red, orange or yellow flowers some of which are called Hawkweed. Easily grown. The leaves are in rosettes with the flowers in heads on erect spikes. The flowers should be cut off directly after flowering and the plants kept from spreading in the garden too much.

- aurantiacum. Devil's Paint Brush; orange; 15 in; HP..... HIER-3(C). 30¢
- faeroeuse..... HIER-6. 25¢
- villosum. Bright golden yellow; 2 ft; HP..... HIER-19. 25¢

HOLLYHOCKS. (Althaea rosea) Malvaceae:

These are all perennials, excepting one or two forms which are treated as annuals. They do best in a rich soil, and in a warm position sheltered from strong winds. Seed can be sown any time up to August, so as to get a good start by fall when they flower the next year.

ANNUAL VARIETIES: Plant early in the spring when they will flower in July.

- Indian Chief. Half double, deep amaranth-purple fls; 4 ft..... HOLY-3C. 15¢
- Indian Summer. Double pink flowers; 4ft..... HOLY-3S. 15¢
- Double Mixed..... HOLY-3DX. 15¢
- Annual Mixed..... HOLY-3X. 15¢

EVERBLOOMING: Flowers most of the summer.

- Single and Double Mixed..... HOLY-5X. 15¢

PERENNIAL VARIETIES:

- Allegheny, Mixed. Semi-double fls, 5" ac. petals fringed..... HOLY-2A. 15¢
- Colorado Sunset. NEW buff-apricot; pretty double type..... HOLY-2C. 20¢
- Empress Strain. Enormous laced and curled fls in many colors..... HOLY-2E. 15¢
- Imperator. Fringed fls in pink to cerise-salmon, 5 ft..... HOLY-2M. 15¢
- Triumph. Double, waved and fringed fls; 3-4 ft..... HOLY-2T. 15¢

CHATER'S DOUBLE HOLLYHOCKS: These grow 6 feet tall and is the best strain of double Hollyhocks. The colors and blends are exceptionally nice.

- Carmine..... HOLY-4C. 15¢
- Carmine Rose..... HOLY-4R. 15¢
- Cream..... HOLY-4M. 15¢
- Crimson..... HOLY-4CM. 15¢
- Lavender..... HOLY-4V. 15¢
- Lilac..... HOLY-4L. 15¢
- Pink..... HOLY-4K. 15¢
- Purple..... HOLY-4P. 15¢
- Deep Scarlet..... HOLY-4S. 15¢
- Sulphur Yellow..... HOLY-4Y. 15¢
- Violet..... HOLY-4T. 15¢
- Pure White..... HOLY-4W. 15¢
- Chaters Mixed. Made up in good color blend..... HOLY-4X. 15¢
- Hollyhock Mixture. This is made up of all kinds..... ¼ lb. \$2.50..... HOLY-X. 10¢

HOLMSKILDIA sanguinea. Chinese Hat Plant; 30 ft ev; Planted in S HOLM-1. 25¢

HOMERIA collina. Red; 2 ft; S. Af cormous; grow as Ixia; HHBb..... HOME-1. 25¢

HOMOGEYNE. (ho-MO-gee-ne) Compositae.

Small perennials with white or purple heads, found in the mountains of Central Europe. Thrive in moist soils.

- alpina. Yellow fls; 6"; HP..... HOMO-1 (C). 30¢

HORDEUM jubatum. Squirrel-tail Grass; drooping spikes; 2½'; HB or P..... HORD-1. 20¢

HORMINUM. (hor-MIN-um) Labiatae.

One perennial native of the Pyrennes and Alps and grown in the rockery.

- pyrenaicum. Blue fls ¾" long in summer; 1 ft; HP..... HORM-1 (C). 30¢

HUMULUS. (HEW-mee-lus) HOP. Moraceae.

Tall hardy twining vines that are ornamental; excellent for porch vines.

- japonica. Fast growing annual; 10-20 ft from May planted seed..... HUMU-3. 15¢
- variegatus. Foliage streaked and splashed with white..... HUMU-3V. 20¢
- Mixed. Above two kinds..... HUMU-X. 15¢

HUNNEMANNIA fumariaefolia. Santa Barbara Poppy, Golden Cup. Yellow fls 3" ac; 2 ft; warm sunny place; grow as annual; TP..... HUNN-1. 15¢

—Sunlite. Yellow flowered variety..... HUNN-1S. 15¢

HYACINTHUS. (hy-a-CIN-thus) HYACINTH Liliaceae.

Bulbous plants of which the common garden Hyacinth is the best known. Some species formerly listed here belong to Galtonia and Muscari. For bulbs see the fall bulb listings. They are easily grown from seed. The large Hyacinth best from the bulb.

- amethystinus alba. Nodding white fls; 6" tall; Spain; HP..... HYAC-1. 20¢
- ciliatus. (H. azureus) Erect racemes; 6" tall; HP..... HYAC-2. 25¢

HYDROPHYLLUM capitatum. Water Leaf. Woods flower 8"; HP..... HYDP-4. 25¢

HYMENANTHERA crassifolia. Hardy N. Z. sh; black and white berries..... HYMN-4. 40¢

HYOSCYAMUS. (hy-oh-SY-ah-mus) HENBANE. Solanaceae.

Funnel-shaped flowers in spikes, best in poor soils. They should be used in large borders; some are grown for medicinal plants.

- niger. Greenish yellow fls veined purplish; 2½ ft; HB or HA..... HYOS-3. 20¢

HYPERICOPHYLLUM.....

- compositarum. Pretty S. Rhodesian; 3-4 ft; bright orange fls..... HYPE-1. 25¢

PIONEER SEED COMPANY — DIMONDALE MICHIGAN

HYPERICUM - ILEX - IBERIS

HYPERICUM. (hy-PER-i-kum) ST JOHNSWORT. Hypericaceae.

Very decorative perennial plants and shrubs usually with bright yellow flowers and many showy stamens. Grow best in a sand loam soil in partial shade. They are not real hardy in the North but if planted in a sheltered place and given winter protection they can be grown even in Michigan.

- calycinum. Fls 1" across; evergreen shrub; 1 ft; HSH..... HYPH-12 (C). 50¢
- Coris. Sub-sh to 1 ft; fls ¾" ac; for S only; TP..... HYPH-18. 25¢
- Hookerianum. Sh to 6 ft; fls 2½" ac; for far South..... HYPH-40. 25¢
- olympicum. Shrubby, 9 in. high; lge deep golden yel fls; HHP..... HYPH-58(W). 30¢

HYPXIS species Golden flowers from S: Rhodesia..... HYPX-4. 25¢

HYSSOPUS. (HIS-up-us) HYSSOP.

Ornamental herbs useful as a culinary or medicinal herb. Light and limy soil is best. See the Herb List.

- officinalis..... HYSS-1. 25¢

ILEX. (Y-lex) HOLLY. Aquifoliaceae.

Evergreen and deciduous trees and shrubs having glossy leaves and brilliantly colored berries. They are very ornamental but some species are not hardy in the far North. They require an acid soil and the germination of the seed will be more successful if the soil used is mostly peat or decayed saw dust. Seed should be stratified as they germinate the second year.

- aquifolium. English H. Best in NW; hardy to Ohio, very pretty; 40'..... ILEX-2. 25¢
- cornuta. Shrubby to 10 ft; hardy in E. States..... ILEX-9. 25¢
- crenata. Japanese H. To 20 ft; fine for the garden..... ILEX-10. 25¢
- fragilis..... ILEX-14. 25¢
- glabra. Inkberry. Hardy in N; black fr; for shade; evergreen..... ILEX-17. 25¢
- insignis. Small evergreen tree for the lawn..... ILEX-20. 25¢
- laevigata. Winterberry. Good; scarlet berries in clusters; swamps; 6'..... ILEX-21. 25¢
- opaca. American H. Dull red berries, hardy; the Xmas Holly; to 50'..... ILEX-28. 25¢
- verticillata. Black Alder. Sh to 10 ft; bright red berries; hardy..... ILEX-37. 25¢
- Mixed Ilex. All species mixed..... ILEX-X. 25¢

See our Tree and Shrub Seed List in the fall for Ilex Seed by the pound. Interesting genus of greenhouse, border and wild garden plants. They are showy in the garden; tender.

IBERIS. (y-BEE-ris) CANDYTUFT. Cruciferae.

These come in half hardy annuals and evergreen perennials and easily grown from seed. The annuals can be sown the later part of May, they germinate quickly and flower early. In the South the seed can be sown in the fall. Keep the plants growing and well watered. Clip seed pods off as the plant easily goes to seed. All are rather low plants and make excellent flowers.

- affinis. Erect to 16"; fls white with lilac tinge; HA..... IBER-1. 15¢
- jucunda. (Aethionema coridifolium). 4-10"; fls rosy lilac in racemes; HP..... AETH-4. 25¢
- gibraltaria. Edging; large purple fls in flat clusters; to 10"; TP..... IBER-5. 15¢
- Special Annual Mixed..... IBER-XA. 20¢

AMARA: (coronaria) Rocket Candytuft. Erect annual; 1 ft; usually with large umbel-like flower heads. The Hyacinth-flowered type is the most popular.

- Giant White. Large, reseeded florist strain; Oz.50¢; 4 oz.\$1.80..... IBER-2H. 25¢
- coronaria. Fls with white crown; pretty type..... IBER-2C. 10¢
- Empress nana. Dwarf large white spike..... IBER-2E. 15¢
- princeps. Very dwarf but large heavy white spike..... IBER-2P. 15¢
- White Rocket. Large white spike..... IBER-2R. 15¢
- Miniature Gem. New, 4", with 4-6 spikes per plant..... IBER-2M. 15¢
- sempervirens. Pure white; edging; evergreen; S. Eur; HHP..... IBER-14. 20¢
- Tenoreana..... Whittish or rose; Spain; 8"; evergreen; HHP..... IBER-15. 25¢

UMBELLATA: Globe Candytuft. This comes in several colors, is not fragrant and is the common species grown in the ordinary flower garden; they are HHA.

- White..... IBER-17W. 20¢
- Best Mixed..... IBER-17X. 20¢
- carmine..... IBER-17M. 20¢

IMPATIENS. (im-PAY-shee-enz) Touch-me-not. GARDEN BALSAM. Balsaminaceae.

Annual and perennial, grown in the garden or greenhouse for their odd and showy flowers. They are all tender to frost.

- Single Mixed..... IMPS-2SX. 20¢
- Double Bush Flowering, Mixed..... IMPS-2DBX. 20¢
- Dwarf Mixed..... IMPS-2DX. 20¢
- Rose Flowered, Finest Mixed..... IMPS-2ZX. 20¢
- Scarlet. Double bush flowering..... IMPS-2DS. 20¢

BALSAMINA: The popular garden Balsam with its rose-shaped flowers in white, lavender, lemon-yellow and many shades of red. Sow seeds in April indoors or in June, direct to the soil. Best in rich sandy loam, ample moisture; 2 ft. tall.

I. HOLSTII: Red-striped stems and flower varying from white to scarlet and grown as greenhouse plants for summer border subjects; tender perennial.

- Holstii. 3 ft; TP..... IMPA-7. 20¢
- Hybrids..... IMPA-7H. 20¢
- Morganrote. Dandy red German variety..... IMPS-7M. 25¢
- Schottenglut. Dark red; fine..... IMPA-7S. 30¢
- Vermillion. A deep scarlet color..... IMPS-7V. 20¢
- Mixed..... IMPS-7X. 20¢

I. SULTANII: Best known greenhouse subject; a favorite house plant and easily grown the year round. It can be planted outdoors in shaded places.

- Karminzweig. New German dwarf; glistening carmine..... IMPA-16K. 50¢
- Hybrids. Many colors from choice stock..... IMPA-16H. 25¢
- nana carmine. Dwarf pink..... IMPS-16M. 20¢
- nana hybrids. Dwarf strain of hybrids..... IMPS-16NH. 20¢
- Karminzweig. Dwarf German variety..... IMPS-16NK. 25¢
- Salmon. A dwarf strain..... IMPS-2S. 20¢

INCARVILLEA. (in-kahr-VIL-ee-ah) BIGNONIACEAE.

Showy and fairly hardy perennials from China, producing terminal clusters of red and yellow tubular flowers above basal group of vivid green leaves. Thrives in a well

INCARVILLEA: Continued on Page 206.

RARE FLOWERS

Continued from Page 204

- hirsutus. Shrub.
- incanus. Shrub.
- laurifolius. Shrub.
- pulverulentus. Shrub.
- salvifolius. Shrub.
- villosus. Shrub.
- Clematis alpina. Shrub. 35¢
- macropetala. Shrub. 40¢
- campaniflora. Shrub.
- graveolens Graveyete Variety. Shrub.
- Codonopsis ovata.
- vinciflora. 50¢
- Coriaria terminalis xanthocarpa. Shrub.
- Cornus Nuttallii. Shrub. 40¢
- Coronilla glauca. Shrub.
- Cortusa Matthioli.
- pubens.
- Corydalis cheilanthifolia.
- glauca.
- Wilsonii.
- Coryledon oppositifolia.
- Craspedia uniflora.
- Crepis aurea.
- incana.
- Crocus species. Mixed.
- Cyananthus lobatus. 50¢
- Cyclamen neapolitanum.
- Species Mixed.
- Cynoglossum Wallichianum (Eritrichium strictum).
- Cypripedium Reginae. 50¢
- Cytisus albus Minstead Variety. Shrub.
- hirsutus. Shrub.
- demissus. Shrub.
- Daphne acutilobata. Shrub. 35¢
- alpina. Shrub. 35¢
- Giraldii. Shrub. 35¢
- Mezereum album. Shrub. 35¢
- oleoides. Shrub. 50¢
- tangutica. Shrub. 35¢
- Delphinium species. Ludlow-Sherriff No. 13,291.
- nudicaule.
- falsienense.
- Dianthus arvensis.
- caesius Bourboulle.
- deltoideus Brillianti.
- F. C. Stern.
- Knappii. 35¢
- noeanus.
- squarrosus.
- Dierama pulcherrima.
- Digitalis ambigua.
- ferruginea.
- Lutz Hybrids.
- lutea.
- Mariana.
- species, Davis No. 14,646.
- Diotis maritima.
- Doronicum cordatum.
- Draba fladnizensis.
- Johannis.
- mollissima. 35¢
- polytricha. 45¢
- species Mixed.
- Drosophyllum lusitanicum. 50¢
- Dryas Drumondii.
- octopetala.
- minor.
- Eccremocarpus scaber. Shrub.
- Edraianthus pumilio.
- Erica lusitanica. Shrub. 35¢
- umbellata. Shrub. 35¢
- Erigeron aurantiacus. 50¢
- aureus.
- caespitosus.
- Flethii.
- leiomorus.
- melanocephalus.
- mucronatus.
- trifidus v. compositus.
- uniflorus.
- ursinus.
- Erinus alpinus.
- carmineus.
- Mrs. Ch. Boyle.
- Dr. Hanelle.
- forms, Mixed.
- Eriogonum Jamesonii.
- Eryngium alpinum.
- Erysimum linifolium. 35¢
- album.
- Eupatorium purpureum.
- Euphorbia characias. 50¢
- silkkimensis.
- Wulfenii.
- Festuca glauca.
- Francoa sonchifolia.
- Fritillaria acmopetala.
- imperialis.
- Galtonia candicans.
- Genista dalmatica. Shrub.
- hispanica compacta. Shrub.
- pilosa. Shrub.
- radiata. Shrub.

Continued on Page 208

Care of the Herb Garden

By Eleanor Chalfin, Virginia

Now is the time to plan a schedule for winter care of the perennial herbs. The foliage of some varieties will wither as Autumn advances and the weather becomes increasingly cold. These herbs will need cutting down to the ground level since they will remain dormant until new growth starts in the spring. Save the dry stalks of the herbs when shearing them and place around the roots after a bit of soil has been spaded over the crowns. This prevents winter heaving. The following herbs are thusly treated: Balm, Bergamot, Costmary, Mint, Pot and Wild Marjoram, Catnip, Sweet and Bronze Fennels, Tarragon, Elecampane, Valerian, Lovage, Wormwood, and Angelica.

The evergreen herbs require judicious pruning at this time of the year. In this group only the stems are trimmed at the top and any old wood removed. Herbs requiring this routine task are: Lavender, Rue, Santolina, Thyme, Germander, Southwood, Salad Burnet, Hyssop, Winter Savory, Betony, Bedstraw and sometimes the Chives. Garden Sage must be treated with utmost discretion since this herb winters over in better shape if leaves are not cut after early August.

Tender perennial herbs need special protection in all areas where the temperature drops during the winter to the zero point. If cold frames are available, transplant the following herbs into the frame during October: Lemon Verbena, Pineapple Sage, Sweet Marjoram and Rosemary. By mid-December it is wise to add some light mulching material around the base of these herbs, even though they are in the frame. In colder sections of the country, it is safer to give the Santolina, Oregano and Germander similar care. Lacking cold-frames, protect these three herbs with a mulch as early in the season as feasible. Small plants may be covered with Hot-kaps. In these same areas, Lemon Verbena, Pineapple Sage and Rosemary may be potted and brought into the basement or house. If they are stored in the cellar, the plants will need only an occasional watering and that given from below. The Rosemary, especially, dislikes wet foliage and should be kept on the dry side.

In milder regions, where the temperature never goes below ten above zero, it is possible to leave the Lemon Verbena, Pineapple Sage, Oregano and Rosemary in the garden. The first two herbs must be cut to the ground level, mounded with earth and heavily mulched. Rosemary and Oregano should be protected around the roots which are very near the surface. Use straw or salt hay rather than leaves. An inverted basket often proves a valuable measure of protection over the Rosemary since it resents snow and freezing rains upon its evergreen foliage.

Many of the biennial and perennial herbs make good house plants. If your Pelargoniums and scented Geraniums have become too large for repotting, it is to be hoped that cuttings were rooted during August, transplanted into pots and brought indoors before frost. Sweet Marjoram makes a fragrant and useful potted plant. Garden Thyme is equally nice. If Parsley, Chives and Tarragon are desired for winter seasonings, leave them outdoors until after a good freeze, having potted them first, of course. This treatment will start new green growth

Continued on Page 203.

HELIANTHUS - HELICHRYSUM

HELIANthemum. (hee-lee-ANTH-em-um) SUN-ROSE. Cistaceae.

Perennials thriving in dry limestone soils, in full sunshine. There are many species below two feet and planted in the border or the rockery as well as for ground cover. Colors are yellow, rose, white or purple, in July to September.

- atriplicifolium. HELM-4 (W). 40¢
- Tuberaria. Yellow fls 1½" ac; S. Eur; HHP. HELM-17 (W). 40¢
- nummularium. All forms of this species. HELM-13F (W). 50¢
- Helianthemum Blend. Mixture of different kinds. HELM-X. 25¢

HELIANthus. (hee-le-AN-thus) SUNFLOWER. Compositae.

Showy annuals and perennials; the flowers ranging from an inch across to a foot and varying in height. They make a showy effect in the border, especially in the background. They are also ideal for bird food during the winter months.

H. ANNUUS: The annual garden forms, coming in many varieties and colors. They are tender annuals and should be planted so as not to be frosted. Plant seed same as you would corn.

- Abendsonne. Beautiful new intermediate German variety. HELA-2AS. 20¢
- Aureole Reinland. Beautiful German variety, wine-red zone on pure yellow ground excellent for cutting. HELA-2A. 20¢
- Bigelowii. Heads 2½" ac; rays yellow, disk brown; 4 ft; HP. HELA-3. 15¢
- Chrysanthemum Flowered. Dwarf small white seed. Oz. 40¢. HELA-2CF. 20¢
- Double Gold. Golden yellow flowers; excellent to cut. HELA-2DG. 20¢
- Dwarf Yellow. Dwarf double; white seeded. HELA-2DY. 20¢
- Dwarf Double. 5 ft; double golden yellow; variegated leaves. HELA-2W. 20¢
- Golden Tufts. Orange yellow heads. HELA-2GT. 15¢
- Gerbera-toned. 3" fls in pastel shades of rose, apricot, coral, red. HELA-2G. 20¢
- Excelsior Hybrids. Miniature type; bronze, brown, reds, zoned. HELA-2H. 20¢
- fistulosus. Large golden ball, twisted petals. HELA-2GF. 20¢
- Gaillardaeiflora. Large Gaillardia-like flowers. HELA-2GL. 20¢
- Jupiter. Black seed. HELA-2J. 20¢
- Mars. Black seeded. HELA-2MS. 20¢
- Miniature Stella. Golden yellow flowers. HELA-2MS. 20¢
- Primrose. Black seeds. HELA-2PR. 20¢
- Miniature. Small golden yellow fls on 5 ft. stems. Oz. 35¢. HELA-2M. 20¢
- Mixed. In shades of yellow. Oz. 30¢. HELA-2MX. 20¢
- Russian. Tall single fls; for seed and background. Oz. 25¢. HELA-2R. 15¢
- Red. In chestnut-red shades; 6 ft. HELA-2D. 20¢
- Starlight. Cactus-like fls, sulphur-yellow; 4 ft. HELA-2S. 20¢
- Italian White. Pure creamy white with brown center. HELA-2TW. 20¢
- Sulphur-Yellow. Large single flowers. HELA-2Y. 15¢
- Southern Cross. HELA-2SC. 20¢
- Single Tall. Large seed; also good for birds. 4 oz. 35¢. HELA-2ST. 15¢
- Tall Gold. Tall double golden yellow. HELA-2TY. 20¢
- Tall Red. HELA-2TR. 15¢
- Stella. Golden yellow miniature; dark centers; 5 ft. HELA-2T. 20¢
- Orion. Yellow fls with twisted petals; 4-6 ft. HELA-2N. 15¢
- Sun Gold. Densely double golden yellow fls; excellent cut. Oz 30¢. HELA-2SG. 20¢
- Annual Blend. A mixture of all annuals. Oz. 25¢; 4 oz. 75¢. HELA-2X. 15¢
- Perennial Sorts Mixed. Perennial Sunflowers. HELA-35X. 20¢

HELICHRYSUM. (hel-ik-KRYE-sum) EVERLASTING. Compositae.

Plants and shrubs. The Strawflowers, *H. bracteatum*, is the commonly grown species. Sow seeds in rows in April or May or they can be started indoors for early bloom.

- bracteatum, Mixed. Heads 2½" across; 3 ft; HA. Oz. 50¢; Lb. \$7.50. HELI-4X. 15¢
- Fireball. Best scarlet; Oz. 65¢; 4 oz. \$2.00. HELI-4S. 15¢
- Snowball. Large double white flowers. Oz. 65¢; 4 oz. \$2.60. HELI-4W. 15¢
- purpureum. Oz. 65¢; 4 oz. \$2.50. HELI-4P. 15¢
- Golden Globe. Large golden flower heads. Oz. 65¢; 4 oz. \$2.50. HELI-4G. 15¢
- Yellow. Oz. 65¢; 4 oz. \$2.50. HELI-4Y. 15¢
- Crimson. Large fls. Oz. 65¢; 4 oz. \$2.65. HELI-4C. 15¢
- Tom Thumb. Dwarf double mixed; small plants. HELI-4TX. 15¢
- Rose. Oz. 65¢; 4 oz. \$2.50. HELI-4Z. 15¢
- Violet. Oz. 65¢; 4 oz. \$2.50. HELI-4V. 15¢

- angustifolium. Narrow leaved; fol. white; fls yellow; HHP. HELI-1. 20¢
- bellidioides. Trailing woody; N. Z; silvery white heads; HHP. HELI-3 (W). 35¢
- nanum, Mixed. Dwarf growing strain; Oz. 50¢. HELI-4NX. 15¢
- purpureum. Dark brown. Oz. 65¢; 4 oz. \$2.65. HELI-4P. 15¢
- Doerfleri. HELI-7 (W). 40¢
- argyrophierum. South Rhodesian Strawflower. HELI-9. 40¢
- frigidum. Silvery white heads; 10"; Corsica; HHP. HELI-10 (W). 40¢
- fulgidum. Pretty Everlasting from S. Rhodesia. HELI-11. 40¢
- monocephalum. Yellow flowers. HELI-11M. 40¢
- magnatum. HELI-14 (W). 40¢
- pachyrism. Dwarf slender woody; heads deep pink; S Rhodesia. HELI-15. 40¢
- plicatum. Heads golden yellow; prostrate; HHP. HELI-17 (W). 40¢
- scutellifolium. HHSH to 10 ft; Australia. HELI-18 (W). 40¢
- specios. Has little pink fls; pretty; S. Rhodesia. HELI-21. 30¢
- virginicum. HELI-24 (W). 40¢
- swynertonii. White fls; from S. Rhodesia. HELI-22. 40¢
- Salmon Queen. Oz. 65¢; 4 oz. \$2.50. HELI-4SQ. 15¢

HELIPterum. (hee-LIP-ter-um) EVERLASTINGS. Compositae.

Annuals that are generally grown for Everlastings. They are from S. Africa and thus should be handled in the North as half hardy annuals (HHA). They are easily grown either started indoors or planted direct to garden at corn planting time. The genus *Rhodanthus* is now listed under *Heliptherum* as the species *H. Mangiesii*, the Swan River Daisy; also *Acroclinium roseum* is now correctly classified here as *H. roseum*.

- chirens. Late flowering shrub; 5 ft; HHSH. HELP-4. 30¢
- Sanfordii. See *H. Humboldtianum*.
- Humboldtianum. Small yellowish green heads in clusters; 18"; HA. HELP-4. 15¢
- Mangiesii maculatum. Swan River E. Bracts spotted red; 18"; HHA. HELP-8M. 15¢
- Rose Center. Oz. 50¢. Oz. 50¢. HELP-8Z. 15¢
- White. Oz. 50¢. HELP-8W. 15¢
- roseum. Heads 2" ac; rose or white; 2 ft; HHA. HELP-10. 15¢
- roseum. Rose or white fls, 2" ac; Everlasting; HHA. HELP-10X. 20¢

ORDERS FOR SEED MAY BE AS LOW AS ONE PACKET; ORDER AS NEEDED.

PIONEER SEED COMPANY

DIMONDALE MICHIGAN

HELIOTROPE - HELLEBORUS

HELIOPSIS. (hee-le-OP-sis) Compositae.

Hardy perennials with sunflower-like flowers 2 inches across and growing to 5 ft. tall. They are nice in the border and make good cutflowers. Grow them the same as Sunflowers and seed started as late as July will bloom the following year.

- helianthoides*. Numerous yellow heads 2½" ac; 5 ft; HP..... HELO-1. 20¢
- Pitcheriana*. Deep rich yellow variety..... HELO-1P. 15¢
- scabra major*. Golden yellow fls; 5 ft; HP..... HELO-4. 15¢
- Pitcheriana*. Deep rich yellow variety..... HELO-1P. 15¢

HELIOTROPIUM. (hee-lee-oh-THOP-pee-um) Heliotrope. Boraginaceae.

Plants and shrubs with small fragrant flowers; some are greenhouse plants, others for the border. The well known greenhouse Heliotrope (*arborescens*) is native of Peru and grown here as a tender annual.

ARBORESCENS:

- Giant Valencia*. Giant flowered French variety..... HELR-2V. 25¢
- Souvenir*. Large flowered French variety..... HELR-2S. 25¢
- Marina*. Giant flowered German variety..... HELR-2M. 25¢
- Mammoth Flowered*. A Holland strain of large flowered hybrids..... HELR-2MF. 25¢
- Regale Dwarf*..... HELR-2RD. 25¢
- Olympia*. Dwarf growth..... HELR-2P. 25¢
- King of the Blacks*..... HELR-2K. 25¢
- Mixed Varieties*..... HELR-2X. 25¢
- Giant Lemoini*..... HELR-2L. 25¢

HELLEBORUS. (hel-le-BO-rus. CHRISTMAS ROSE, HELLEBORE. Ranunculaceae.

Perennial plants blooming early in the spring and in mild climates, during late winter. Thrive in rich moist soil, partial shade. They are sometimes forced under glass. Seed secured during the winter months should be stratified till early spring.

- corsicus*: see *H. lividus*.
- lividus*. Pale green fls in clusters; Corsica; 18"; HP..... HELB-9 (W). 50¢
- niger*. Christmas Rose; white; 1½ ft; hardy; HP..... HELB-10 (C). 30¢
- maximus*. Larger flowers..... HELB-10M (W). 50¢
- odorus v. cupreus*. Copper colored fls; 15"; HP..... HELB-12 (C). 40¢
- v. atrosanguineum*. Red fls; HP..... HELB-12A (C). 50¢
- olympicus*. White fls; HP..... HELB-13 (C). 50¢
- viridis*. Yellowish green fls; 2 ft; HP..... HELB-18 (W). 50¢
- Species and Hybrids Mixed*..... HELB-X (W). 50¢

HEMEROCALLIS. (hem-er-oh-KAL-is) DAY LILY. Liliaceae.

A genus of mostly tuberous-rooted perennials with lily-like flowers and narrow grass-like leaves. They are all of simple culture, either grown from seeds which produce seedlings or from roots for particular varieties. The commonly grown garden forms are hybrids of various species. See special list for roots of named varieties.

- Peerless Blend*. Seed saved from the best varieties..... HEME-H. 20¢
- Hybrids*. From hand pollinated flowers including pink and "reds"..... HEME-14B. 20¢
- Part hand and part bee pollinated including pink and "reds"*..... HEME-14M. 15¢

HERACLEUM. (her-ah-KLEE-um) COW-PARSNIP. Umbelliferae.

Course herbaceous perennials used for a bold effect in the border or wild garden. The flowers are pink or white, very small and in enormous umbels.

- Mantegazzianum*. Deeply cut white fls in umbels; 4 ft ac; 9 ft; HP..... HERA-2. 20¢

HERBERTIA pulchella HERB-2 (W). 35¢

HESPERANTHA. (hes-per-AN-thah) Iridaceae.

Tender S. Af. bulbous plants very similar to *Ixias*; flowers star-shaped, opening in the evening, fragrant; they like sunny positions, sandy loam soil with some peat. Treat as a pot plant in the North.

- Bauri*. Bright rose-red fls in loose spikes; 2 ft; TBb..... HSPR-1. 50¢

HESPERIS. (HES-per-is) ROCKET Cruciferae.

Hardy biennials and perennials of erect branching habit and bearing white, rose or mauve-purple flowers in pyramidal spikes; excellent cutflowers; June-July; 1-3 ft. tall. They are fragrant. Sow seeds any time up to August for flowers the next season.

H. MATRONALIS: Sweet Rocket. The common garden forms are of this species. They are perennial but sometimes only biennial; hardy in the North; sow seed a year before they are to bloom.

- Mixed*. White and the reds mixed..... HESP-6X. 15¢
- nana candidissima*. Dwarf form in pure white flowers..... HESP-6C. 15¢

HESPEROYUCCA. (hes-per-oh-YUK-ah) Liliaceae.

Only one species from S. Calif. much like the Yucca. Hardy only in mild climates.

- Whipplei*. Creamy white fls, 2" ac, fragrant, in nodding pan; TF..... HSPR-1. 25¢

HETEROMORPHA trifoliata HETP-1. 25¢

HETEROPAPPUS Blaugriithi. German var. of this Composit; allied to Boltonia;

- blue heads; HP..... HETP-1B. 25¢
- Red..... HESP-6R. 15¢

HEUCHERA. (HEU-her-ah) ALUM-ROOT. Saxifragaceae.

Herbaceous perennials, usually of dwarf compact habit flowering in June-Sept, valuable in the low border or rockery. Grow in sunny place, good loamy soil, and producing mats of deep green leaves. The flowers are bell-shaped; excellent for cutting. germinate seeds warm and in light.

- cylindrica v. glabella*. Yellowish green fls; 2½ ft; HP..... HEU-7G. 25¢
- maxima hybrids*..... HEU-12MX. 30¢

H. SANGUINEA: Commonly grown species in gardens, founds on cliffs and hills.

- Spitfire*. Very pretty; large rich scarlet fls..... HEU-20S. 25¢
- splendens*. Dark crimson variety..... HEU-20S. 20¢
- Hybrids*. Different colors and forms..... HEU-20H. 20¢

HIBISCUS. (hye-BISK-us) Rose-Mallow. Malvaceae.

Plants, shrubs and trees with showy flowers in several colors. Annuals should be sown in pots or bands or direct to the soil. They require a rich soil with moisture.

- Manihot*. Yellow or white, dark brown centers, 9" ac; 9 ft; HA orP HIBS-26. 25¢

HIBISCUS: Continued on Page 204.

CARE OF THE HERB GARDEN

Continued from Page 202.

when they are transferred to the warmth of a sunny window sill.

When clipping and shearing the fragrant or culinary herbs, save every leaf. Wash them well, dry and use for their many purposes. Make sachets of the lavender and verbena or lay them among linens. The fragrant Geranium are equally useful and put into pretty jars, make thoughtful and inexpensive gifts. Mix the pulverized culinary herbs for salads, soups, poultry dressing and meats to flavor the winter foods. Small amounts may be dried in paper bags, with air holes cut in them. Waxed paper is even better as it doesn't absorb the essential oils.

SALVIA SPLENDENS

The best time to start Salvia is the end of February or the first part of March.

Most failures in germinating Salvia seed are due to the lack of bottom heat when germinating. A temperature of 60 degrees F. is necessary, even at night. Two weeks are required for germination. The seedlings should be transplanted in a mixture of two parts good loam and one part of leaf mould with plenty of sand added.

Keep the young plants growing. Pinch out the tall shoots so as to form a bushy plant at the very start. If set out in pots a 3 inch one can be used and if extra good plants are wanted, shift them every few weeks to larger pots.

ALASKA COTTON.

In the October issue of your magazine I note with interest the letter from Mrs. MacPherson of Winnipeg, Canada and I thought I might be of help in determining the soil requirements she asks about, but I cannot be certain that the plants which she brought back from Churchill are Alaska Cotton.

Certainly from Mrs. MacPherson's description it is a plant far divers from what is known in southeastern Alaska and in Kodiak as "Alaska Cotton". I suppose our plant has some sort of leaves but one never notices them, since the plant's main features are the numerous green, leafless stems which spring up usually in large patches and are topped with balls of fluffy white, or in rare instances golden brown, cotton, about the size of dandelion puffs.

Our cotton flourishes most readily in the swamps (black, waterlogged soil which I should imagine to be quite acid and never thoroughly dry) away from the salt water or in moist meadows where cattle graze or in typical marsh lands where does also grow the Alaskan Iris.

The Cotton appears about the first of June and is with us until September ends and if picked when freshly matured, it will carry through the winter in dried bouquets and is especially prized by those creators of floral pictures and glass-topped trays.

I should be interested in knowing the true name of the plant which Mrs. MacPherson describes.

Alaskan Cotton, as listed in the Alaskan Wildflower book is the plant known in Kodiak and not a vine nor found on boulders exposed to salt water. Later in the spring, I shall be glad to make a soil test for Alaskan Cotton if anyone has need of this information.

Note: We will be pleased to print your findings on the soil test, Mrs. Given.

By Mrs. Alace M. Given, Alaska

SUBSCRIPTION price now \$2.00 per year.

A SELECTED LIST OF RARE FLOWER SEEDS

Continued from Page 205.

<i>Gentiana acaulis.</i>		<i>Lathyrus albo-roseus.</i>		<i>Poterium spinosum.</i>	30¢
—Forms, Mixed.		—cyaneus.		<i>Primula alpicola</i> Mixed.	
—asclepiadea.		—latifolius, White Pearl.		—Asthore Hybrids.	
—alba.		—vernus.		—aurantiaca.	
—elegans. (termalis).		<i>Lavandula spica nana alba.</i> Shrub.		—Auricula.	
—gracillipes.	40¢	—rosea. Shrub.		—Hybrids.	
—lutea.		<i>Lavatera cashmiriana.</i> Shrub.		—Beesiana.	
—Pneumonanthe.	35¢	—maritima. Shrub.		—Bulleyana.	
—septemfida.		—thuringiaca. Shrub.		—chungensi.	
<i>Geranium Endressii</i> A. T. Johnson.		<i>Leontopodium alpinum</i> Stracheyi.		—denticulata.	
—pratense bicolor.		<i>Leptospermum Martinii.</i> Shrub.	40¢	—elator.	
—Mrs. Kendall Clark.		<i>Leucogyns grandiceps.</i>	35¢	—Florindae.	
—Silver Queen.		<i>Leucojum autumnale.</i>	35¢	—Red Forms.	
—sessiliflorum.		—hiemale.	45¢	—Forrestii.	40¢
—sylvaticum album.		<i>Lewisia hybrids.</i>		—frondosa.	
—species. Mixed.		<i>Liatris pycnostachya.</i>		—Halleri.	
<i>Geum Borisii.</i>		—spicata.		—hyacinthina.	50¢
—campanulatum.		<i>Lilium columbianum.</i>		—intergrifolia.	35¢
—montanum.		—cordifolium.		—involutocrata.	
—maximum.		—Kelloggii.		—japonica.	
—pseuda-coccineum.		—pardalinum Johnsonii.		—Millers Crimson.	
—pyrenaicum.		—rubellum.	50¢	—Postford White.	
—triflorum.		—Szevitzianum.		—lichiangensis.	
—triflorum.		<i>Linaria alpina.</i>		—luteola.	
<i>Glaucium flavum.</i>		—anticaria cuarjanensis.		—nutans.	40¢
<i>Globularia bellidifolia.</i>		—dalmatica.		—pulverulenta.	
—Hort's Variety.		—faucicola.		—Bartleys Strain.	45¢
—dumulosa.	50¢	—supina.		—rosea.	
—incanescens.		—triornithiflora.		—saxatilis.	
—trichosanthe.		<i>Linum alpinum.</i>		—secundiflora.	
—Wilkomii.		—narbonense gentianoides.	35¢	—yargongensis.	
<i>Grindelia squarrosa.</i>		<i>Loasa species.</i>		—Bog Species Mixed.	
<i>Gypsophila acutifolia.</i>		<i>Luzula maxima.</i>		<i>Prunella Loveliness.</i>	
<i>Halimium alyssoides.</i>		<i>Lychnis viscaria.</i>		<i>Pulmonaria angustifolia rubra.</i>	
<i>Hamamelis virginiana.</i> Shrub.		<i>Lysimachia ephemerum.</i>	35¢		
—Zuccariniana. Shrub. (japonica)		<i>Meconopsis betonicifolius.</i>		<i>Ramonda Myconi.</i>	35¢
<i>Haplopappus coronopifolius.</i>		—cambrica.		—Nathaliae.	45¢
<i>Helianthemum atriplicifolium.</i>		—aurantiaca.		<i>Ranunculus anemonoides.</i>	
—Tuberaria.		—fl. pl.	40¢	—gramineus.	
—umbellatum verticillatum.		—superba.		—Lyallii.	45¢
—vulgaris forms, mixed.		—Species.		<i>Raoulia glabra.</i>	
<i>Helichrysum bellidioides.</i>		<i>Mimulus Lewisii.</i>		<i>Rheum giganteum.</i>	
—Doerfleri.		—leuteus cupreus.		<i>Rhododendron ferrugineum.</i> Shrub.	40¢
—frigidum.	35¢	<i>Minuartia juniperoides.</i>		—Dwarf Species, Mixed.	50¢
—marginatum.	35¢	—saxifraga.		<i>Rhodotyphlosis, Mixed.</i>	
—plicatum.		<i>Moraea spatulacea.</i>		<i>Romneya Coulteri.</i>	35¢
—scutellarioides.		<i>Morina longifolia.</i>		<i>Roscoea humeana.</i>	
—virginicum.		<i>Myosotis australis.</i>	35¢	<i>Rupicapnos africana.</i>	
<i>Heliosperma macrantha.</i>	35¢	<i>Narcissus Bulbocodium.</i>			
<i>Helipetrum anthemioides.</i>		—corbularia.		<i>Salvia argentea alpina.</i>	
<i>Helleborus corsicus.</i>	50¢	—triandrus albus.		—haematodes.	
—niger maximus.	50¢	—Watieri.	45¢	—pratensis.	
—viridis.	40¢	—Dwarf Species Mixed.	45¢	—turkestanica.	
—Species and Hybrids Mixed.	40¢	<i>Nicotiana rustica.</i>		—villosa.	
<i>Herbertia pulchella.</i>	35¢	<i>Nomocharis Species Mixed.</i>	40¢	<i>Sambucus racemosus.</i>	
<i>Hieracium bombycinum.</i>		<i>Oenothera acaulis.</i>		<i>Sanguinaria canadensis fl. pl.</i>	75¢
—villosum villosissimum.		—pumilla.		<i>Santolina alpina.</i>	
<i>Horminum pyrenaicum.</i>		—riparia.		<i>Saponaria caespitosa.</i>	
<i>Hutchinsia Auerswaldii.</i>		—Species. Brook No. 5,396.		—lutea.	
<i>Hyacinthus amethystinus.</i>		<i>Olearia Gunnii Coomber's Red.</i>		—ocymoides rubra compacta.	
—azureus.		—mollis.		<i>Saxifraga aizoides atrorubens.</i>	
<i>Hypericum androsaceum.</i> Shrub.		<i>Ononis hircina.</i> Shrub.		—aizoon forms, Mixed.	
—confertum.		—rotundifolia. Shrub.		—calabrica.	
—hircinum pumilum.		—spinosa. Shrub.		—cebenensis.	
—olympicum.		<i>Onosma albo-roseum.</i>		—cochlearis.	
—orientale.		—Species. White Flowers.		—major.	
—rhodopaeum.		—tauricum.		—cotyledon caterhamensis.	
—Species, Ludlow-Sherriff, No. 15,737.		<i>Orobis luteus aureus.</i>		—pyramidalis.	
<i>Iberis contracta.</i>		<i>Ourisia macrophylla.</i>	40¢	—crustata vachinensis.	
—jucunda.		<i>Paeonia mascula.</i>		—Encrusted Forms, Mixed.	
<i>Ilex crenata convexa.</i> Shrub.		—obovata alba.		—Francis Cade.	
—Mariesii. Shrub.	50¢	—paradoxa.		—Hostii altissima.	
<i>Impatiens Roylei.</i>		—Species Mixed.		—irrigua.	
<i>Incarvillea Delavayi.</i>	35¢	—Papaver Burseri.		—latepetiolata.	
<i>Inula Royleana.</i>	50¢	—Kernerii.		—lingulata Freshways Variety.	
<i>Iris aurea.</i>		<i>Paronychia nivea.</i>		—lantoscana.	
—chrysographes forms.		—Penstemon aristatus.		—longifolia Tumbling Waters.	45¢
—Douglasii.		—cristatus.		—luteo-viridis.	35¢
—foetidissima.		—Davidsonii.		—x Macnabiana.	
—Forrestii.		—glaucus stenocephalus.		—x Moonlight.	
—graminea.		—Menziesii microphyllus.		—Mossy Forms, Mixed.	
—innominata aurea.	40¢	—Newberryi.		—sibirica.	
—japonica.		—pinifolia.	35¢	—umbrosa Colvillei.	
—laevigata.		—Scouleri.		—primuloides Ingwersen's Variety.	50¢
—alba.		—strictus.		—Zollikoferi.	
—atropurpurea.		—Weald Beacon.		—Species Mixed.	
—colchesterensis.		<i>Perezia multiflora.</i>	40¢	<i>Scabiosa alpina.</i>	
—Mottled Beauty.		<i>Phlomis cashmiriana.</i>		—graminifolia.	
—Niagara.		—samia.		—limonifolia.	
—Purple Beauty.		—villosa.		—ochroleuca.	
—Regal.		<i>Phormium Cookianum.</i> (Colensoi)		—pterocephala.	
—Snowflake.		<i>Phormium Cookianum</i> (Colensoi) tenax.		—silenifolia.	
—Zambesi.		<i>Phytolacca Scheuchzeri.</i>		<i>Scolymus hispanicus.</i>	
—Named Varieties Mixed.		—spicata.		<i>Scutellaria scordifolia.</i>	
—ochroleuca.		<i>Phytolacca decandra.</i>		<i>Sedum brevifolium.</i>	
—siberica.	40¢	<i>Pinus parviflorus pumilus.</i>		—hirsutum.	
—tectorum.	40¢	<i>Piptanthus nepalensis.</i>		—Lampusae.	35¢
—tenax.		<i>Platycodon grandiflorum.</i>		—pilosum.	
—tergloviensis.		—Mariesii.		<i>Sempervivum, Mixed.</i>	
—versicolor.		<i>Podophyllum Emodii.</i>		<i>Senecio incanus.</i>	
<i>Isatis tinctoria.</i>		<i>Polemonium caeruleum humile.</i>		<i>Serratula Shawii.</i>	
<i>Kalmia glauca.</i> Shrub	40¢	<i>Polygonum viviparum.</i>		<i>Sideritis montana.</i>	
<i>Kitaibelia vitifolia.</i> Shrub.	50¢	<i>Potentilla argyrophylla atrosanguinea.</i>		—syriaca.	
<i>Kniphofia pumila.</i>	40¢	—leuconota.		<i>Silene acaulis alba.</i>	35¢
—Tubergenii.	40¢	—nepalensis Miss Willmott.		—alpestris.	
<i>Laburnum alpinum.</i> Shrub.		—recta marcrantha.		—fl pl	
		—rupestris pygmaea.			

Continued on Page 210

Surface Moisture in Germinating Seeds

By Percy H. Wright, Sask.

The difficulties in germinating small seeds are two: one springing from the tendency of the soil, unless VERY sandy, to bake and crust over and thus form cracks, and the other, the expected result of having a dry surface soil. To solve the former problem, and the second, too, to some extent, I have long practiced mulching the seed beds with sawdust and watering it down immediately to keep it from blowing away while still loose. The watering seems to pack it enough to make it "stay put" even after it dries out again. Sawdust cannot be used for VERY small seeds, but only for those about as fine as honeysuckle seed. Tiny seeds cannot germinate in a material that dries out as quickly as sawdust does, and will prevent the emergence of plantlets that are unable to penetrate an inch or so of it and come to the surface. As everyone knows, one of the chief difficulties in starting small seeds, and medium small seeds, in beds out of doors, is the much quicker germination of weed seeds, particularly the seeds of dandelions and the various forms of pigweed. It is one of the chief merits of the sawdust covering that these and very fine-seeded weeds are prevented from emerging, making the chore of keeping the seed bed clean very much easier.

In 1947 and 1948 the spring seasons were very dry, so dry that even sawdust did not give enough covering of the soil to prevent it from drying out to below the depth the seeds were, before some of the slower types had had time to germinate. I was able to water a few of the seeds with the old watering can, but maintain too many seed beds to give that amount of labor to them all, and as I have no sprinkling system as yet, the result has been two rather poor years for seed propagation.

However, I observed that under the bushes of some hybrid roses the seed that fell from the hips just above has germinated readily and produced numerous plants from seed that must scarcely have been covered at all. As a consequence, I believe some shade is a very inexpensive way of providing surface moisture for the considerable periods that are needed by the slower seeds, and intend to nail up some lath shades to lay over the frames surrounding the seed beds. The seed beds of conifers at the Forestry Nurseries are commonly shaded by rolls of lath wired together so that about as much space is left between laths as the width of the lath. These shades have to be taken off to let in the light and air when mildew threatens to take a toll of the plantlets hidden below.

I intend to put the lath on some of my frames still closer together, allowing a quarter or less of the sunlight to reach the ground for some of them. Some seeds need direct sunlight to germinate, but others are able to germinate in darkness or partial darkness. Those which can germinate without light might as well have as little as possible, especially if they are naturally slow in germination and need surface moisture for considerable periods. Under the shades I will use sawdust still, for its value in preventing crusting.

Very fine garden seeds, such as those of celery and Petunias, are best sown in flats or boxes indoors, and covered with a layer of burlap cut out of old potato sacks. Even though the seeds have been sown with no

(Continued on Page 219)

A Good California Compost Box



By W. E. White, Monrovia, Calif.

So many of the flower gardeners I know save all their weeds, grass leaves, etc., to make humus. My method is a little different to most gardeners, and believe it would be of interest to your readers.

My container is 3 ft. by 3 ft., the lower part is a cement box or tank of 1 inch cement walls and bottom, with a piece of 1 inch pipe, capped, inserted near the bottom at right hand corner. On top of this tank the crate is made in three sections, fitted one on top of the other for convenience in unloading. The slat floor is placed on the bottom of the tank, allowing the liquid fertilizer to drain out more readily. The round tank at side of crate is a large shortening can from the bakery that I covered with cement; it is set in the ground under the pipe or outlet to catch the liquid. This black liquid is a fine fertilizer or booster.

Into this crate put all your garden refuse,

weeds, grass, leaves, house scraps, etc. When it becomes an additional foot high, stamp it down and wet it; then sprinkle with 1 lb. of Adco and keep it moist. (When the war was on I had to make my own mixture of nitrate, phosphate, potash and ground oyster shell; it worked fine.) By having a sectional crate it is easier to remove the thick rich humus fertilizer.

I found it advantageous to have an extra container, so the upper part, which is only partly decomposed, can be tossed into this crate for a new start. My neighbour was so well pleased with my results that he built a tank and crate 10 ft. by 14 ft.

My hobby is collecting flowering bulbs and for these bulbs I allow the compost to partially dry, then sift out all sticks and stones before using. It is also used in my mixture for seed boxes.

In dry sections of the country like California, should be well sprinkled once a week.

Eryngiums

Sea Holly excel as stately stiff-growing plants quite unlike any other garden subject.

The plants make generous clumps of basal foliage from which spring stiff stems with leaves usually broad, spiny edged and often with prominent whitish veins. The height varying from 1-4 feet or more, depending upon the kind.

They make fine displays with their brilliant shades of blue in stems, bracts and flower heads in summer as well as in winter bouquets.

E. alpinus, known as the alpine blue thistle is one of the best, grows to 4 ft, and best in limestone soils.

E. Bourgatii grows to 18 inches, a heavenly blue color with a touch of pink. Its shade of blue is exceptional and is retained from June to August.

E. Spinalba with its bluish silver color makes nice 2-3 foot plants.

E. amethystinum, 2 feet high comes in a pleasing violet-blue color from June to September.

E. maritimum is really a good garden sort, best in a sandy soil but not hardy in the North.

GET EVERY ISSUE — \$2.00 PER YEAR

Franklinia Tree

Your article in the July '51 issue of Saier's Garden Magazine by D. Todd Gresham, "The Beautiful Franklinia", was of considerable interest to me. A number of years ago a lovely Franklinia flourished at Baker Mansion in Altoona, Pa., along with many moss roses, shrub peonies and other fine plants. In a general clean-up these things were rudely destroyed. I had obtained several of the seeds, but they did not germinate. The tree was about 10 feet high, very thrifty and bloomed profusely.

I hope to order seed from you later for I have always wanted a Franklinia of my own.

My present seed order is sent in hopes of beautifying a large area of limestone rock outcropping on a portion of land where we recently built our home. It is a lovely natural site, never cultivated. It is a challenge and a thrill to plan for and plant such a plot. Our little greenhouse will also be of help in giving things an early start.

Your magazine has been very helpful, especially in pronunciation. Am looking forward to further enjoyment as each new issue arrives.

Mrs. Kensinger, Roaring Springs, Pa.

Editor's Remarks: Together with Mr.

(Continued on Page 217)

A SELECTED LIST OF HARD-TO-FIND FLOWER SEEDS

This list is continued from page 208 and if the letter (W) is used on the items following half column it will help in filling your order more quickly.

—cretica.
—Ingramii.
—Keiskymimior.
—pygmacea.
Silybum Marianum.
Sisyrinchium cuspidatum.
Skimmia japonica. Shrub.
Smilacina stellata.
Solidago brachystachys.
Spartium junceum. Shrub.
Sisatis bellidifolia.
—incana.
Stokesia cyanea praecox.
Stylophorum diphylum.
Symphyandra Hoffmannii.
—Wanneri.

Tanacetum Herderi.
Tellima grandiflora.
Thalictrum aquilegifolium.
—Delavayi.
—Rochebrunianum.
—Species, Mixed. (Ludlow-Sherriff Coll'ed).
Thymus azoricus.
—mastachinus.
—nitidus true.
Tigrida pavonia.
Trollius pumilus yunnanensis.
Tulbaghia violacea.
Tulipa australis. Select form.
—Batalinii.
—Eichleri.
—Kaufmanniana. Mixed.
—Species Mixed.

Verbascum Chalcii.
—album.
—phoeniceum.
Veronica Bidwellii true.
—Miss Willmott.
—calactae Blue Form.
—macrantha. Shrub.
Viola arenaria rosea.
—cornuta alba.
—cucullata.
—elator.
—gracilis Grandeur.
—heterophylla.
—labradorica purpurea.
—lutea. True.
—odorata. Coeur D'Alsace.
—olympica.
—septentrionale.

Weldenia candida.
Westringia rosmarinifolia.
Wulfenia carinthiaca.

Our F List of Rare Seeds

We list below one lot of flower seeds which there has not been time to classify them in the regular two-column listings. The name has been listed as they are made in Europe and therefore some will not be the same as recognized in this country. It will make it easier to fill your order if you will state that your selections are from this list, which we have the letter (F) attached to them.

The abbreviations at the end of each line indicate the botanical authority for the classification and need not be used when ordering.

ALL PACKETS ARE 40¢ EACH.

ACEANA glaucophylla.
—glauc.
ACANTHOLIMON armenum.
—lepturoides v. grandiflorum.
—venustum.
ACHILLEA Clavane.
—Frasii.
—macedonica.
—Moschata.
—nana.
—rupestris.
—tomentosa.
—umbellata.
—serbica.
—sericea.
ACONITUM Anthora.
—excelsum.
—Forrestii.
—leptanthum.
—Lycocotum.
—palmatum.
—pyrenaicum.
ACTEA arguta.
—rubra.
ADENOPHORA Bulleyana.

—Farreri.
—stricia.
—Tashiroi.
—Thunbergiana.
ADONIS pyrenaica.
—dahurica.
—vernalis.
AETHIONEMA armenum.
—cordifolium.
—ovalifolium.
—Kotschy.
—pulchellum.
—persicum.
—schistosum.
—stylosum.

ALLIUM cyaneum.
—flavum.
—Farreri.
—darvasicum.
—Libani.
—Montanum.
—pyrenaicum.
—tataricum.
—strictum.
—Tibeticum.
—Yunnanense.

ALYSSUM alyssoides.
—argenteum.
—corymbosum.
—desertorum.
—idaem.
—murale.
—petraeum.
—saxatile.
—scardicum.

ANACYCLUS depressus.

—Pyrethrum.
ANDROSACE carnea.
—brightiaca.
—Halleri.
—Laggeri.
—armeniaca.
—lactea.
—lactiflora.
—mucronifolia.
—pedemontana.
—Primuloides.
—sempervivoides.
—subulifera.
—villosa.

ANEMONE globosa.

—Hudsonica.
—Leveilli.
—narcissiflora.
—parviflora.
—polyanthes.
—reflexa.
—riparia.
—rivularis.
—virginiana.
ANTENNARIA alpina.
—gaspensis.
—imbricata.
—neodioca.
—nevadensis.
—speciosa.

ANTHYLLIS montana.
—vulneraria v. alpestris.

ANTHERICUM Liliago.
—ramosum.

AQUILEGIA alpina.

—akitensis.
—chrysanthia.
—caerulea.
—Columbiana.
—ealcaraia.
—farinosa.
—formosa.
—flabellata.
—fulgens.
—glandulosa.
—oxysepala.
—pyrenaica.
—alba.
—Reuteri.
—Skinneri.
—vridiflora.
—arenosa.

ARABIS bellidifolia.

—cebensis.
—cenisia.
—nivalis.
—stellaris.

ARENARIA gracilis.

—graminifolia.
—juniperifolia.
—rigida.

ARMERIA alpina.

—caespitosa.
—hybrid Six Hills.
—japonica.
—pinifolia.
—rumelica.
—siberica.

—vulgaris v. splendens.
ARNEBIA echioides.
ARNICA alpina.
—amplexicaulis.
—Chamissonis.
—cordifolia.
—foliosa.
—longifolia.
—mollis.
ARTEMISIA glacialis.
—laxa.
—nevadensis.
—petrosa.
—scorparia.
ASPERULA ciliata.
—humifusa.
—orientalis.
—scutellaris.
—tinctoria.
ASPHODELINE liburnica.
—lutea.
ASPHODELUS Villarsii.
ASTER alpinus.
—albus.
—dolomiticus.
—leucaster.
—Wolfii.
—altaicus.
—amelus.
—dumosus Snow Sprite.
—diplostaphioides.
—Farreri.
—Forrestii.
—foliaceus.
—Fremontii.
—himalaicus.
—ibericus.
—ibiricus.
—subcoeruleus.
—Thompsonii.
—tibeticus.
—tridescanti.
—species Boihan Ghose.
ASTRAGULUS autriacus.
—depressus.
—exscapus.
—falcatus.
—sempervirens.
—sulcatus.
ASTRANTIA minor.
—mayor.
—trifida.
—bavarica.

BALLOTA nigra.
BARTSIA alpina.
BELLIS rotundifolia v. coerulescens.
BELLUM minatum.
BRODIAEA laevis.
Briza maedia.
BUPHTALMUM speciosum.
BUPLEURUM Candollei.
—longifolium.
CALCEOLARIA polyrhiza.
CALENDRA compressa.
CAMPANULA abietina.
—aucheri.
—allionii.
—ardonnensis.
—barbata.
—bononiensis.
—carpatia.
—alba.
—turbinata.
—cenisia.
—cochlearifolia v. miranda.
—collina.
—elatinoides.
—excisa.
—glomerata.
—imeritina.
—latifolia.
—moesiaca.
—persicifolia.
—alba.
—primulaefolia.
—pulla.
—siberica.
—mayor.
—speciosa.
—sprunneriana.
—thessala.
—van Houttei.
—velutina.

CARDAMINE resedifolia.
CARLINA acaulis.
Seeds between here and Gentiana are already listed in the 2-column listings.
GENTIANA alpina.
—altaica.
—angustifolia.

—vulgaris v. splendens.
Boiss.
L.
Nutt.
Less.
Nutt.
Eaton.
Hook.
L.
Fritsch.
Lindb.
Bmg.
W. K.
R.
Bess.
Vis.
L.
Rchb.
Rchb.
Verlot.
L.
L.
Beck.
Beck.
F.
Wild.
L.
Benth.
Franch.
Stapp.
Ldl.
Gray.
C. B.
C. Bl.
HOOK.
L.
L.
L.
Lam.
Lam.
L.
L.
L.
Schultz.
L.
L.
Boiss.
L.
Wats.
L.
Schreb.
Wall.
L.
Cav.
Schrab.
Crieseb.
D. C.
L.
L.
L.
Jacq.
Jacq.
L.
L.
M. B.
L.
L.
Rupre.
L.

Boiss.
Hook.
Sch.
Scop.
aJcq.
Reut.
Reut.
Guss.
D. C.
W. K.
Schrab.
L.
M. B.
Willd.
Boiss.
Thunb.
Boiss.

Seeds between here and Gentiana are already listed in the 2-column listings.
GENTIANA alpina.
—altaica.
—angustifolia.

—vulgaris v. splendens.
Boiss.

RARE FLOWERS

The following list is continued from page 211 and if you will indicate your selections with the letter (F) it will help to hurry your delivery. Do not use the abbreviations at the end of each line; they merely indicate the botanical authority for the name and for the use of those customers who are particular about the correct classification.

ALL PACKETS are 40¢ EACH.

This list contains many very hard-to-find flowers.

SIEVERSIA montana.	L.
—æthica.	NYM.
—repens.	R. Br.
SILENE alpestris.	Jacq.
—bryoides.	Jord.
—caucasica.	Boiss.
—cretica.	L.
—dalmatica.	Scheele.
—dinarica.	Speng.
—japonica.	Ronr.
—legionensis.	Lag.
—pyrenaica.	Vis.
—Reichenbachii.	Ve.
—oemerii.	Boiss.
—Senafneri.	L.
—saxifraga.	L.
—vallesia.	L.
—vulgaris.	L.
—cosniaca.	Whn.
SISYRINCHIUM angustifolium.	Mill.
—bibracteum.	Pope.
—brachypus.	Henry.
—idahoense.	Bick.
—californicum.	Dyand.
SOLNUM dulcamara.	L.
SOLDNELLA montana.	L.
SOLIDAGO nemoralis.	Ait.
STACHYS alepecuroides.	L.
—lanata.	Jacq.
—officinalis.	Sch.
—lavandulifolia.	Vahl.
STOESIA laevis.	Greene.
—praeox.	
SWERTIA aucheri.	Boiss.
—petiolata.	Royale.
—speciosa.	Wahl.
TEUCRIUM Chamaedrys.	L.
—cordifolium.	Cel.
—lucidum.	L.
—montanum.	L.
TEUCRIUM orientale.	L.
—pyrenaicum.	L.
THALICTRUM alpinum.	L.
—altaicum.	Frank.
—Delawayi.	Engelm.
—Fendleri.	L.
—flavum.	L.
—minus.	L.
THLASPI alpestre.	L.
—rotundifolium.	L.
TIARELLA cordata.	L.
TOWNSENDIA exscapa.	Porter.
—Parryi.	Eaton.
—Vilcoxiana.	Wood.
TRADESCANTIA virginiana.	L.
TRIFOLIUM alpina.	L.
—album.	L.
—pannicum.	L.
Note: We no doubt can supply seed of practically all listings throughout the year. These will be classified later on in the regular 2-column seed lists.	
TROLLIUS asiaticus	L.
—chinensis.	Bge.
—Ledebourii.	Reichb.
—pumilus.	DON.
—vaginatus.	
—yunnanensis.	OLBR.
TUNICA saxifraga.	Scop.
—alba.	Scop.
UMBILICUS chrysanthus.	Boiss.
—persiens.	Boiss.
—Pestalezzae.	Boiss.
VALERIANA. supina.	L.
VERATRUM album.	L.
—nigrum.	L.
VERBASCUM phoenicum.	L.
VERONICA Allionii.	Vill.
—alpina.	L.
—rosea.	Nurr.
—bellidioides.	L.
—fruticans.	Jacq.
—fruticulosa.	L.
—gentianoides.	Wahl.
—incana.	L.
—Kellereri.	Ur.
—Laveudiana.	Racul.
—longifolia.	L.

Continued on Page 213

LILY SEED HEADQUARTERS

NOTE: In the following 16 pages there have been added to this seed listing alone two full columns. Besides there will be found over 200 more new listings made up in single column, which we were not able to list here but which will be included later on. If you are especially interested in flowers, you should subscribe so as to have every issue and not miss any listing, some of which appear only once a year.

LAGERSTROEMIA. (lay-gur-STREEM-ee-uh) Lythraceae.

Ornamental trees and shrubs with showy flowers in panicles followed by capsular fruits. Grown out doors in the South or in the greenhouse for pot plants.

—turbinaia. LAGR-4 (M). 50¢

LEUZEIA (LEW-zee-uh) Compositae. Conifera. Fl-heads cone-like, 2" long; with showy scales; 1 ft; HP. LEUZ-3 (C). 35¢

LIATRIS. (ly-AY-tris) BLAZING STARS, GAY FEATHER. Compositae.

Perennial plants, very attractive all summer and into autumn, especially when massed in the border. Flowers are in spikes or racemes. Easily grown from seed and not difficult to grow.

—callilepis. Purple fls; HP. LIAT-2. 15¢

—pyncostachya. Purple fls in dense spikes; 5 ft; HP. LIAT-15. 20¢

—scariosa. Purple fls; bracts purple tipped; 6 ft; HP. LIAT-16. 20¢

—Liatis Blend. All above mixed. LIAT-X. 15¢

LIBOCEDRUS. (lye-boh-SEED-rus) INCENSE-CEDAR. Cupressaceae.

Evergreen trees related to Thuja.

—decurrens. Hardy to Mich; 100 ft. Oz. 50¢; lb. \$2.50. LIBO-4 (S). 25¢

LIGULARIA. (lig-u-LAY-re-ah) Compositae.

Herbaceous perennials with broad basal leaves attractively marked and with many yellow ray-flower heads in racemes or corymbs on 5 ft. stems. They are of easy culture and useful in the border.

—clivorum, Orange Queen. Heads 4" ac and pretty orange; 5 ft; HP. LIGU-10. 20¢

LILIUM LIL-ee-um) LILY. Liliaceae.

Most lilies are easily grown from seed and hardy in the North. They should be planted in a well prepared bed where no manure has been recently added. The ideal bed would be the one prepared a year before and covered with a mulch. Sand should be mixed with the soil for best results. Lilies can be quickly grown from bulbs, delivered in the fall or from seed which are not hard to grow. For growing from seed the species are divided into two groups according to the method used in germinating them: Those marked (A) are the quick germinating species and those marked (B) the following spring with no top growth the first year; transplant to the nursery row the 2nd or 3rd year. Those marked (B) sow in March or April outdoors or a month earlier indoors; they take about 3-6 weeks to germinate; carry the seedlings over the first year and transplant to the nursery rows the 2nd spring. There are other short cut methods which will be described in these columns from time to time.

the slow germinating species:

—amabile. Red, dark spots; Turk's Cap; 3 ft; A. LILY-2. 50¢

—luteum. Yellow form; A. LILY-2L. 50¢

—auratum. (Type) Gold Banded L.; bowl-shape; 4-6 ft; B. LILY-4. 25¢

—Late Form. B. LILY-4L. 50¢

—pictum. White, heavily spotted crimson; 6 ft; B. LILY-4P. 50¢

—platyphyllum. More massive and robust; 6 ft; B. LILY-4Y. 50¢

—praeox. B. LILY-4R. 50¢

—tricolor. Like A. platyphyllum but with out crimson spots; B. LILY-4T. 50¢

—Aurelian Hybrids. A. LILY-47A. 50¢

—Backhouse Hybrids. B. LILY-47B. 50¢

—Bellingham Hybrids. B. LILY-47H. 25¢

—Bclanderi. Thimble Lily. Bell-shaped; wine red; 3 ft; B. LILY-8. 50¢

—callosum. Bright scarlet dotted purple; Japan; 2 ft; A. LILY-11. 50¢

—canadense flavum. Lemon yellow; 5 ft; B. LILY-13F. 25¢

—candidum. Madonna Lily. Waxy white; 4 ft; A. LILY-13. 25¢

—Caesbaei. Southern Red Lily. Scarlet, yellow spotted 2 ft; N. C.; B. LILY-18. 50¢

—centifolium: see leucanthemum v. chloraster.

—cernuum. Lilac spotted purple; nodding; 2 ft; A. LILY-20. 35¢

—columbianum. Bright reddish orange reflexed; 4 ft; B. LILY-23. 25¢

—Ingrami. Has larger and brighter flowers; B. LILY-23G. 25¢

—cordatum. White striped purple; erect; 4 ft; B. LILY-25. 50¢

—Crow's Hybrids. (Friemann Strain) Trumpet; huge cream; 5-6 ft; A. LILY-47W. 25¢

—Pink Selections A. LILY-47P. 50¢

—dauricum Wilsonii. Deep apricot; erect; 3ft; A. LILY-32W. 50¢

—elegans: see L. maculatum. Recent reclassification.

—Davidii. Refined Tiger Lily; 6 ft; A. LILY-33. 50¢

—Wilmottiae A. LILY-33W. 50¢

—formosanum. Late, trumpet; white; 8 ft; A. LILY-39. 25¢

—giganteum v. himalaicum. White; huge woodland lily; 6-12 ft; B. LILY-40H. 50¢

—Henryi. Golden Speciosum; recurved, soft golden orange; 6-8 ft; A. LILY-45. 25¢

—hollandicum. Up facing bowl-shape; many forms; 2-3 ft; A. LILY-46. 30¢

—Red Bird. LILY-47RB. 35¢

—Humboldtii v. magnificum: see H. v. ocellatum; B.

—Humboldtii v. ocellatum. Reddish bronze fls; drooping; 6 ft; B. LILY-48C. 50¢

—imperiale v. G. C. Creelman Hybrids. Regale x Sargentiae; 6-8 ft; A. LILY-49C. 35¢

—japonicum. Pink trumpet-shaped; 2-4 ft; B. LILY-50. 50¢

—Kelloggii. Pink spotted with purplish-black; erect; 4 ft; Calif; B. LILY-51. 50¢

—maculatum. (elegans) Fls orange, spotted black-purple. LILY-56. 40¢

—Leichtlinii v. Maximowiczii Wadai. Early Tiger L. Recurved; 6 ft; A. LILY-58MW. 50¢

—leucanthemum v. chloraster. Chinese White L; trumpet; 6 ft; A. LILY-54. 50¢

—myriophyllum v. superbum. Sulphur-yellow reddish outside; 6 ft; A. LILY-67. 50¢

—Longiflorum Hybrid. White Trumpet L. 3 ft; Japan; A. LILY-55C. 50¢

—White Queen. A. LILY-55Q. 50¢

—Marhan hybrids. Martagon album x Hansonii; yellow; 4 ft; B. LILY-47B. 50¢

—maritimum. Coast Lily. Reddish orange spotted purple; 4 ft; B. LILY-58. 50¢

—Martagon. Turk's Cap L. Rose or dark purple; 6 ft; B. LILY-59. 50¢

—album. White variety; B. LILY-59A. 50¢

—Maximowiczii: see Leichtlinii v. Maximowiczii.

—medeoloides. Wheel Lily. Apricot to scarlet; recurved; 3 ft A. LILY-62. 50¢

—nepalense. Yellow stained purple inside; 3 ft; A. LILY-70. 50¢

See also Page 211 for more Listings. LILY SEED Continued on Page 213.

PIONEER SEED COMPANY

DIMONDALE MICHIGAN

LIMONIUM - LINARIA - LINUM

LILY SEED Continued from Page 212.

—pardalinum. Leopard Lily. Orange-red spotted purple; 8 ft; B.....	LILY-77. 25¢
—giganteum. White tinged green; 12 ft B.....	LILY-77G. 50¢
—princeps: see imperiale.	
—pumilum. (tenuifolium) Coral L Bright scarlet; 2 ft; A.....	LILY-91. 25¢
—regale. Royal L. White; 5 ft; China; A.....	LILY-96. 25¢
—album. A.....	LILY-96A. 50¢
—Palmer's Hybrids. Named varieties mixed; A.....	LILY-47M. 50¢
—Preston Hybrids. Named varieties; recurved; 3-5 ft; A.....	LILY-47P. 50¢
—regale. Huge white trumpets; 4-6 ft; A.....	LILY-95. 25¢
—rubellum. Small rose-pink; funnel-shape; 1-2 ft; B.....	LILY-99. 50¢
—Sargenitiae. Rose-purple outside, white within; 6 ft; A.....	LILY-105. 50¢
—Hybrid. S. x centifolium hybrids; A.....	LILY-105C. 50¢
—Scottiae hybrids. Willmottiae x elegans v. Mahogany; 3 ft; A.....	LILY-106H. 50¢
—Skyrocket. A.....	LILY-47S. 50¢
—speciosum v Kraetzeri. B.....	LILY-110K. 50¢
—magnificum hybrids. B.....	LILY-110M. 50¢
—punctatum. B.....	LILY-110P. 50¢
—rubrum. B.....	LILY-110R. 50¢
—superbum: see myriophyllum v superbum. B.....	
—Sulphur hybrids. A.....	LILY-47S. 50¢
—sulphureum: see myriophyllum v. superbum.	
—tenuifolium: see pumilum.	
—Tsingtanense. A.....	LILY-120. 75¢
—umbellatum: see hollandicum.	
—Washingtonianum v. purpureum. White changing to lilac; 6 ft; B.....	LILY-126P. 50¢
—Willmottiae: see Davidii.	
—Lily Blend. All (A) kinds mixed.....	LILY-XA. 35¢
—Lily Blend. All (B) kinds mixed.....	LILY-XB. 35¢
—Lily Blend. All kinds; best for those growing in vermiculite.....	LILY-X. 35¢

LIMONIUM. (li-MOH-ne-um) STATICE, SEA-LAVENDER. Plumbaginaceae.

A highly prized flower both for the border and for commercial growing, many of those listed were formerly listed as Statice. They make fine everlasting or dried flowers; all easily grown from seed, the annual sorts sown early in the spring and the perennials anytime up to August for the next year's flowers.

—bellidifolium. (S. caspia) White and pale blue; 8"; HP.....	LIMO-2. 15¢
—Bonduellii. Golden yellow fls; 2 ft; HA or HB.....	LIMO-4. 15¢
—Hybrids. New strain; interesting forms.....	LIMO-14N. 15¢
—latifolium. Immense lavender-purple heads; dry places; 2 ft; HP.....	LIMO-16. 15¢
L. SINUATUM: Biennial or perennial, grown as a hardy annual. The leaves form low rosette at base of the stiff angular branching flower stalk. Used very much for cutflowers, drying, or in the border.	
—Kampf's Tall. Improved blue market strain.....	LIMO-32K. 10¢
—Markikoniogen. A new German strain in a perfect blue.....	LIMO-32M. 15¢
—True Blue. A California strain in a rich blue.....	LIMO-32C. 15¢
—Sinuatum Sorts Mixed.....	LIMO-32X. 10¢
Price on all L. sinuatum Sorts: Oz. 40¢; 1/4 lb. 85¢; 1 lb. \$2.50, Prepaid	
—Suworowii. Bright rose spikes; easy house plant too; 18"; HA.....	LIMO-36. 15¢
—Limonium Blend. Mixture of all kinds.....	LIMO-X. 10¢

LINARIA (lye-NAY-ree-ah) TOADFLAX. Scrophulariaceae.

Annual and perennials of easy culture; the flowers are in racemes or spikes in many colors. They are sometimes called Baby Snapdragons. Excellent in beds or for cutting. Sow seeds from August to February; best in full sun.

—alpina. Violet fls; Alps; 6" tufted; HP.....	LINA-1(C). 30¢
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LINNAEA. (li-NEE-ah) TWIN-FLOWER. Caprifoliaceae.

Subshrubs suitable for the rockery thriving in a moist peaty or woodsy soil.

—borealis. Dainty trailer; bell-shaped rose fls; glossy ev; HP.....	LINN-1. 30¢
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LINUM. (LY-num) FLAX. Linaceae.

Annual and perennial plants and shrubs with blue, white or yellow flowers, popular in the border. Grow in full sun and sow the annual forms direct to the garden early in the spring; the perennials up to August for next year's flowers. Easy to grow.

—alpinum. Deep blue 3/4 inches across; 10" high; HP.....	LINM-2(C). 30¢
—flavum. Golden yellow fls; 1 ft; half hardy in North; HP.....	LINM-14. 15¢
—compacium. Compact form especially suitable for RG; HHP.....	LINM-14C. 20¢
—grandiflorum. Red to bluish purple fls, 1 1/2" ac; 2 ft; HA.....	LINM-16. 15¢
—coeruleum. Very showy bluish purple; HA.....	LINM-16C. 15¢
—roseum. Large rose-pink fls; HA.....	LINM-16R. 15¢
—Blue. Very popular cutflower; HA.....	LINM-16B. 15¢
—Lewisii. More robust than L. perenne; 18"; Mont; HP.....	LINM-19. 15¢
—narbonnense. Best form of this pretty Flax; gentian-blue fls.....	LINM-23(W). 30¢
—perenne. Deep blue fls; 18" tall; very good; HP.....	LINM-26. 15¢
—salsoloides. White fls; 1" ac; evergreen; 16"; HHP.....	LINM-28(C). 30¢
—album. White form of above.....	LINM-26A(C). 30¢
—White. A white flowered form of above; HP.....	LINM-26W. 15¢
—Linum Blend. All the above kinds mixed.....	LINM-X. 10¢

LISSOCHILUS (lis-so-CHIL-us) kredsii. Threstrial African orchid; closely allied to Eulopia; S. Rhodesia.....	LISS-2. 50¢
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LITHOSPERMUM. (lith-oh-SPERM-um) GROMWELL. Boraginaceae.

Annuals and perennials or sub-shrubs with white, yellow, blue or violet flowers in racemes or spikes. They are showy and planted in the border or rockery.

—Doerfleri. Fine plant for the rockery.....	LITO-10(C). 35¢
—Froebelii. Rosemary-like lvs; dark blue fls; 10"; HP.....	LITO-11(C). 35¢
—intermedium. Sub-sh; blue fls; 10"; HSH.....	LITO-18(C). 35¢
—oleifolium. Prostrate shrub; Pyrenees; HHP.....	LITO-24(C). 35¢
—purpureo-caeruleum. Rich blue fls, 1/2" ac; HP.....	LITO-29(C). 35¢

LITTONIA. (lit-TOH-nee-ah) Liliaceae.

Climbing or erect plants with bell-shaped orange or yellow flowers and tuberous roots; easy to grow in a sunny window; give rest in early winter. Related to Gloriosa.

—modesta. Bright orange bells, 1" ac; good summer house plant.....	LITT-1. 25¢
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ON PURCHASES OF LESS THAN 50¢ WE WILL ACCEPT 3¢ STAMPS

PIONEER SEED COMPANY - DIMONDALE MICHIGAN

RARE FLOWERS

(Continued from Page 212)

—multifida.	L.
—orchidacea.	Crtz.
—spicata.	L.
—rosea.	hori.
—spuria.	L.
—Toucruum.	L.
VIOLA altaica.	Fall.
—calcarata.	L.
—centisia.	L.
—elator.	Fr.
—gracilis v. purpurea.	hori.
—hirta.	L.
—Joiois.	Jka.
—rugulosa.	Greene.
—sempervirens.	
VISCARIA alpina.	Don.
—atropurpurea.	Kriesb.
—vulgaris.	Bernh.
—alba.	
WULENIA Amhesiac.	
—carinthiaca.	
—alba.	
ZYKADENUS Nuttallii.	

FREESIAS

The right time to sow seeds of Freesias is in March or April, as soon as the seed is ripe. Put up as soon as possible but do not repot again until the second year.

They may bloom as early as six months from sowing. Flowers will be had during the winter months:

Grow in a cool house, never lower than 40 degrees Far.

Repot each year in August for January flowering or in October for February flowers; November for March and December for April flowering. Plant the bulbs one inch deep and 2 inches apart. Do not water much until growth starts, then freely till the plants have flowered, when you gradually decrease the water to July.

When they start to flower a little liquid manure once a week will be beneficial.

ORDERING SEEDS

When so many orders for seeds come in as they do at this time of the year, it is surprising how much time can be consumed in filling an order which is made out by the common names that are given along with the regular listings. The other day one item just stated "Camphor". Naturally this had to be laid aside until someone could make it out to be packed and as this person already has more work than can be done in a 24 hour day, such orders can be delayed when if it was listed as given in the seed list any packer could find the seed.

It will help very much if the orders gave the name of the flower, viz., "Nepeta Musiniil. NEPE-10. 15¢" It could mean a quicker delivery.

We might also mention that all our seeds are stored according to their needs and thus each order is filled as it is packed. Very few of our seeds are packaged in quantity and then left waiting for orders as is the usual case; this is one of the main reasons for the good germination of our seeds.

While mentioning germination we might say that we actually like to hear from those having poor germination on any particular seed. It is possible that we can help to get a germination for there are many details to be watched in most all seeds. However, we trust that anyone buying seeds will not be disappointed when they have a failure; we would not expect better than 60% of our own plantings to reach the seedling stage, so many things do happen.

Also, on some of the special one-column lists that are now appearing, without the usual symbol number, it will assist us if

(Continued on Page 217)

Peltophorum inerme

By Edwin A. Menninger

Sogabark Peltophorum. (Caesalpinieae). A beautiful evergreen tree from the Philippines and "one of the best shade trees we have" in those islands, according to Dr. E. D. Merrill, distinguished head of the Fairchild Tropical Garden. It bears great upright spikes of very showy yellow flowers, blooming in Florida from May to August.

Kathleen Cough in "A Garden Book for Malaya," writes: "Best of all for cuttings are perhaps the luminous flowers; those that glow and hold light. I do not know what it is that gives some flowers a 'lit-up' look; not only does the light shine through their petals, but they seem to catch and hold it . . . Yellow and flame-colored dahlias hold light and so do the fleeting single hibiscus, blue morning glories and, above all, the golden spikes of Peltophorum inerme. Sprays of these flowers indoors seem liquid gold; they are wonderfully beautiful with their decorative unopened tight bronze buds and bronze stems, just touched with gilt. The fully opened flowers have crinkled golden petals and orange-tipped stamens. The light shines and glows in a mass of these beautiful flowers more intensely in the shade indoors than when they are growing outside.

W. E. Broadway of the Trinidad Botanical Garden, wrote: "The appearance of this tree at all times of the year is conspicuous on account of its dark green feathery foliage. When in flower this dense tree carries great weight with those who prefer a mass of bloom."

Henry Nehrling wrote: "In comparison with the many other distinguished representatives of its family, this tree adds variety to the collection, its compound leaves being much larger, individually and collectively, of a much deeper green, showing in certain lights a faint steel-blue tint in the old, and a more ferruginous cast in the young foliage. The large, erect flower panicles terminating every shoot are covered with a rusty brown tomentum with a slight touch of chestnut color. Its vigorous growth, the distinct color of its foliage and the large erect panicles of bright yellow, fragrant flowers continue to make this tree a marvelous object of tropical beauty. It is a unique and first-class flowering and shade tree. It thrives well in South Florida, is evergreen, not too dense, gives a good shade and produces an abundance of showy flowers. A well drained soil, rather dry, is what it requires."

Trimen wrote: "A magnificent sight when in full bloom." In Ceylon the tree blossoms twice a year at irregular seasons, some specimens being in bloom while others nearby are carrying the ripe seed pods, flat, several inches long, shaped like the blade of a paddle.

Editor's Note: There are so many beautiful flowering trees suitable to Florida and Southern California, many of which have been introduced by Mr. Menninger, which should be grown by more people residing in these favored sections. It is often an easy matter to start them from seed and the growing of them on from the seedling stage, offers an interesting pastime. Surplus trees thus grown can be planted in other local gardens

Kalmiaeflorus - (kal-mih-ee-FLOH-rus)

Laurel; Kalmia-flowered.

Kewensis - (kew-EN-siss) of Kew Gardens.

Kamtschatikus - (kam-CHAT-ik-us) of Kamchatka, Siberia.

RUSSELL PERENNIAL LUPIN

LUCULIA. (lew-KEW-lee-uh) Rubiaceae.

Shrubs with salverform 5-lobed flowers in terminal corymbs. Native of India and China; grown in the greenhouse and planted out during the summer.

—**gratissima v. rose.** To 16 ft; fls rose, 1½" ac; greenhouse plant..... **LUCU-1Z.** 30¢
 —**White.** Same with white flowers..... **LUCU-1W.** 50¢
 —**Mixed.** Both colors evenly mixed..... **LUCU-1X.** 30¢

LUEHEA.

—**seemani.** Costa Rica tree with pretty white fls; Fla or S. Cal; TTR.... **LUEH-1(M).** 30¢

LUNARIA. (leu-NAY-ah) SATIN-FLOWER, HONESTY, MOONWORT. Cruciferae.

They come in an annual and a perennial species; are grown mainly for the pretty dried flowers. Sow seed early for the annuals and any time up to August 20th for the perennials. The annuals are often biennial.

—**annua.** 18" tall and comes in white, red and purple fls; HA or HB.... **LUNA-1X.** 10¢
 —**White.** Pure white fls..... **LUNA-1W.** 15¢
 —**Crimson.** A dark crimson colored flower..... **LUNA-1C.** 15¢
 —**Munstead Purple.** A fine strain for dried flowers..... **LUNA-1M.** 15¢
 —**Variegated.** The leaves are variegated in this strain..... **LUNA-1V.** 20¢

LUPINUS. (lu-PI-nus) LUPINE. Leguminosae.

Flowers in great profusion on long stemmed spikes; both annual and perennial sorts are excellent for display in the border or for cutting. They grow on any well drained soil and thrive even on poor land; sow seed where plants are to grow.

—**RUSSELL LUPINS.** Original strain direct from originator's stock. This is the highest quality obtainable and wonderful plants can be obtained from them; HP. Comes in packets at 50¢; 75¢ and \$1.00; state which..... **LUP-54.** 50¢

—**arboreus.** Lavender fls; shrub to 8 ft; TP..... **LUP-7.** 15¢
 —**Hartwegii.** Blooms July-Sept; best annual species; HA..... **LUP-25.** 15¢
 —**Blue.** In a light shade..... **LUP-25B.** 15¢
 —**White.** Pure white..... **LUP-25W.** 15¢
 —**Celestial Blue.** Sky blue..... **LUP-25C.** 15¢
 —**Rose.** A deep rose color..... **LUP-25Z.** 15¢
 —**Lyallii.** For the RG; easily grown; to 4 ft; HP..... **LUP-34.** 20¢
 —**nanus.** Blue with purple-dotted spots; fragrant; May-June; 15"; HA.... **LUP-40.** 15¢

L. POLYPHYLLUS. The tall perennial Lupin, hardy in the North, with winged flowers in many beautiful colors, blooming most of the summer. They are easily grown and their brilliant spikes will make an showy display in any border; to 5 ft; June-Sept.

—**Carmine.**..... **LUP-50C.** 15¢
 —**Blue.** A pale blue or sky blue..... **LUP-50B.** 15¢
 —**Yellow.** A nice bright color..... **LUP-50Y.** 15¢
 —**Moerhousii.** Pretty rose and white flowers..... **LUP-50M.** 15¢
 —**Princess Juliana.** Dwarf bright pink, 3 ft tall..... **LUP-50J.** 15¢
 —**Salmon Queen.** Beautiful shade of salmon-rose..... **LUP-50S.** 15¢
 —**Terre Cotta.** In various shades of terre cotta..... **LUP-50T.** 15¢
 —**Russel Hybrids.** This is a very superior strain in bright colors..... **LUP-50R.** 20¢
 —**L. polyphyllus Blend.** Hand made blend..... **Oz. 35¢; Lb. \$3.80;** **LUP-50X.** 15¢
 —**subcarnosus.** Texas Blue-bonnet. Bushes 15" tall; massive fl spikes; HA.... **LUP-56.** 15¢

LYCHNIS. (LIK-nis) Caryophyllaceae.

Brilliantly colored flowers and easily grown from seed; if sown indoors early, will flower following June and July. Requires plenty of sunshine and a rather dry soil. They are related to the Silenes and the dominant color is red; herbaceous HA and HP.

—**alpina.** Pink fls; dense terminal heads; tufted; 1 ft; HP..... **LYCH-2.** 30¢
 —**Arkwrightii Hybrids.** Showy; nice color range; 18"; HP..... **LYCH-4.** 20¢
 —**chalcidonica.** Scarlet fls in dense term. heads; June-July; 2-3 ft; HP.... **LYCH-7.** 20¢
 —**Coeli-rosa.** Rose-of-Heaven. Rose red term. fls; 18"; HA..... **LYCH-8.** 15¢
 —**Coronaria.** Rose Champion. Crimson; terminal fls; 3 ft; HB or HP..... **LYCH-10.** 15¢
 —**astrosanguinea.** Dark blood-red fls of above..... **LYCH-10A.** 15¢
 —**Red.** Deep red color..... **LYCH-10R.** 15¢
 —**Flos-cuculi.** Cockoo-fl. Red or pink panicle fls; May-Aug; 15"; HP.... **LYCH-13.** 25¢
 —**Flos-Jovis.** Fl-of Jove. Pink in dense umbels; June-July; 18"; HP.... **LYCH-14.** 20¢
 —**Forrestii Hybrids.** Shades of pink to crimson and white; 20"; HP.... **LYCH-16.** 15¢
 —**Haageana.** Hybrid, orange-red, scarlet fls; May-June; 20"; HP..... **LYCH-19.** 15¢
 —**utriculata.** Tender perennial..... **LYCH-29.** 25¢
 —**Viscaria.** Red and purple, ½ in. ac, clusters; May-June; 18"; HP..... **LYCH-30.** 15¢
 —**Lychnis Blend.** Mixture of all kinds..... **LYCH-X.** 15¢

LYSIMACHIA. (ly-si-MAY-ki-ak) LOOSESTRIFE. Primulaceae.

Annual and perennial summer blooming flowers in white or yellow, sometimes purple and blue, in spikes or racemes. They are grown in moist places.

—**punctata.** Yellow fls in whorls; 3 ft; HP..... **LYSM-14.** 20¢
 —**ramosa.**..... **LYSM-15.** 20¢
 —**Lysimachia Blend.** Mixture of those in stock..... **LYSM-X.** 15¢

MACHAERANTHERA. Compositae.

A genus of American daisy-like annuals, biennials and perennials, similar to hardy Asters. Tahoka Daisy is the commonly grown species.

—**tanacetifolia.** Blue fls; June-Nov; sow late fall, ey spring; HA..... **MACA-1.** 20¢

MACLEAYA. (mah-KLAY-rah) PLUME POPPY, BOCCONIA. Papaveraceae.

Perennials used for their bold and attractive habit and appearance. The flowers are small and in terminal panicles.

—**cordata.** Lvs 8" ac; specimen plants; 6 ft; HP..... **MACL-1.** 15¢
 —**microcarpa.** Differs from M. cordata in flowers; 6 ft; HP..... **MACL-3.** 20¢

MAHONIA. (ma-HOH-ne-ah) Berberidaceae.

Perennial evergreen shrubs, similar to Barberry. The flowers are yellow and in racemes followed by blue berries. Some are hardy in the North and should be planted in a sheltered place from the wind and hot sun.

—**repens.** Low growing; bluish green lvs; hardy in N; 1 ft; HP..... **MAHO-16.** 20¢

It is difficult to keep a complete list of the seeds we offer as the stocks are continually changing from month to month; our present method is the only practical way.

PIONEER SEED COMPANY

DIMONDALE MICHIGAN

MARIGOLDS - ALL KINDS

MALCOMIA. (mal-KOH-me-ah) **MALCOME STOCKS.** Cruciferae.

Annuals and perennials from Med. regions, mostly grayish leaves. Plant seeds early indoors or direct to garden. In *M. maritima* sow seeds every 2 weeks for a succession bloom.

- maritima*. Va. Stocks. Mixed colors; fine for border; 12"; HA..... **MALC-3X. 15¢**
- Yellow*. Rich clear yellow..... **MALC-3Y. 15¢**
- Rose*. Deep rose color..... **MALC-3Z. 15¢**
- Crimson Gem*. The best red..... **MALC-3C. 15¢**
- White*. Pure white..... **MALC-3W. 15¢**

MALVASTRUM. (mal-VAS-trum) **FALSE-MALLOW.** Malvaceae.

Mallow-like plants and subshrubs with purple, yellow or red flowers, usually in terminal spikes. Makes nice plants in the border and sometimes grown in the greenhouse. —*coccineum*. Prairie-M. Brick-red fls, 1" ac; 8 ft; hardy, HP..... **MALV-3. 20¢**

MARIGOLD. TAGETES. Compositae.

Marigolds are fairly hardy and therefore they should be planted rather early in the spring. There are many wonderful plants in both types, African and French, that have been developed recently and we will always offer the best as they are introduced.

AFRICAN MARIGOLDS: These are strong feeders and require plenty of water, therefore plant them in the richest, most favorable section of your garden. Seeds may either be sown where the plants are to remain or they can be started indoors and transplanted out in late May. Give the plants plenty of room, in most cases about three feet apart.

NOVELTY TYPES: These are the large flower type, the plants usually 3-5 ft. high and the flowers up to 4-5 in. across. They make an excellent display in beds as well as well cut flowers. There are some varieties with odorless foliage.

- Treasure Chest*. Large ball-shaped heads in mixed colors;..... **MARY-1T. 15¢**
- Crown of Gold*. Collerette type with odorless foliage; golden yellow..... **MARY-1CG. 15¢**
- Gigantea Sunset*. Huge yellow or primrose fls, 5" ac; 3½ ft..... **MARY-1GS. 15¢**
- Golden Glow*. Very large golden heads 5" ac; odorless; 4 ft..... **MARY-1GG. 15¢**
- Mission Giants, Goldsmith*. Perfect ball type; golden; huge..... **MARY-1GS. 15¢**
- Yellowstone*. Golden yellow, incurved, heads, huge; 4 ft..... **MARY-1YS. 15¢**
- Gypsy Jewels*. A wide range brilliant colors; sweet; 15" tall; neat..... **MARY-1GJ. 15¢**
- Pot O'Gold*. Deep golden orange; dwarf 15"; compact; neat..... **MARY-1PG. 15¢**
- Little Giants, Mixed*. Collection of dwarf lge flowers; 15"; border..... **MARY-1LG. 15¢**
- Early Sunrise*. Dazzling golden yellow; 4 ft tall..... **MARY-1ES. 15¢**
- Collerette, Crown O'Gold*. GM 37; odorless; gold-n orange..... **MARY-1CG. 15¢**

TALL DOUBLE AFRICAN: All double or fistulosa type flowers with quilled petals and all 100% double flowers; they are favorites for bedding and for cutting; 2½ ft.

- All Double Gold. One of the best strains..... ½ Oz. 75¢..... **MARY-2G. 15¢**
- All Double Lemon. A real good color..... ½ Oz. 75¢..... **MARY-2L. 15¢**
- All Double Orange. Different than gold..... ½ Oz. 75¢..... **MARY-2N. 15¢**
- All Double Mixed. The above varieties mixed..... ½ Oz. 75¢..... **MARY-2X. 10¢**
- Lemon Queen*. Los Angeles florist strain; lemon-yellow; ½ Oz. 51.00 **MARY-2LQ. 15¢**
- Golden Emblem*. Rich gold, between L: Queen -O. Prince; ½ Oz. 75¢ **MARY-2GE. 15¢**
- Orange Prince*. Improved strain; good..... ½ Oz. 80.00 **MARY-2P. 15¢**

CARNATION TYPE AFRICANS. The blooms are carnation shaped with fluffy broad petals and nearly 100% double; excellent cut; 2-2½ ft. tall.

- Burpee Gold*. Odorless foliage; bright gold..... ½ Oz. 60¢..... **MARY-3BG. 15¢**
- Golden Crown*. Dwarf strain; golden yellow; low beds; 1ft..... **MARY-3GC. 15¢**
- Yellow Supreme*. Pretty lemon-yellow; G. M. in '35..... ½ Oz. 55¢..... **MARY-3YS. 15¢**
- Golden West*. Early; dwarf strain of Guinea Gold; 2 ft..... ½ Oz. 50¢..... **MARY-3GW. 15¢**
- Guinea Gold*. Vivid golden orange..... ½ Oz. 50¢..... **MARY-3GG. 15¢**

FRENCH MARIGOLDS. Mostly small plants 12-15 inches high, with smaller flowers than the African Marigolds; they are especially good for beds and borders and good uniform stock is necessary; many varieties are ideal for edging. This type does better if they can be planted where they are too grow as they do not take well to transplanting. Unlike the African Marigolds, the French type does better if not grown in rich soil not with too much moisture.

NEW HARMONY TYPE: These have a crested formed flower; excellent for beds.

- Gold Crest*. 2" ac; deep golden orange; quilled petals; 8" high..... **MARY-6GC. 15¢**
- Golden Harmony*. Luminous golden yellow; 11 in. high..... **MARY-6GH. 15¢**
- Clinton*. Orange, frilled and waved petals, odorless foliage..... **MARY-6C. 15¢**
- Golden Supreme*. Larger flowers than (6GH); 18 in. high..... **MARY-6GS. 15¢**
- Harmony*. Deep orange, maroon collar; early; 1 ft. high..... **MARY-6H. 15¢**
- Melody*. Clear all golden yellow; 1¼" across; 1 ft. high..... **MARY-6M. 15¢**
- Orbit*. Golden yellow center reddish brown guards; 1 ft high..... **MARY-6B. 15¢**
- Spotlight*. Yellow center; mahogany border; 1¾" ac; early; 12"..... **MARY-6SL. 15¢**
- Winter Harmony*. Winter flowering type for the GH; 2½" ac..... **MARY-6WH. 15¢**
- Dwarf Harmony*. Uniform 11" plants; 2-tone. lemon and dary red..... **MARY-6DH. 15¢**
- Harmony Type Mixed*. All above mixed..... ½ Oz. 40¢..... **MARY-6X. 10¢**
- Tall Harmony*. Double hybrids; for cutting ½ Oz. 35¢..... **MARY-6TH. 15¢**

TALL DOUBLE FRENCH: 30 inches high.

- Australian Giant*. Tall double or grendon tree; brownish yellow..... **MARY-7AG. 15¢**
- Josephine*. Single brown; good cut; 3 ft. high..... **MARY-7J. 15¢**
- Liebs Tall Winter Flowering*. Deep brown; single; GH cut fls..... **MARY-7LW. 15¢**

DWARF DOUBLE FRENCH:

- Robert Beist*. Rich maron; 12" high..... **MARY-8RB. 15¢**
- Royal Scot*. All double; rich mahogany and gold combination; 1 ft..... **MARY-8RS. 15¢**
- Sunbeam*. Pure golden yellow; pretty; 15 in. high..... **MARY-8SB. 15¢**
- Double Monarch*. Mixed. Compact; large fls; new shades..... **MARY-8DM. 15¢**

DWARF SINGLE FRENCH:

- Ferdinand*. Golden yellow flanked mahogany-red; 2 ft high..... **MARY-9F. 15¢**
- Fire Cross*. Deep orange-yellow, blotched maroon; 10" high..... **MARY-9FC. 15¢**
- Flash*. New red and gold bicolor; dandy; good in pots or border; 15"..... **MARY-9FL. 15¢**
- Legion of Honor*. Pretty yellow blotched brown; dwarf..... **MARY-9LH. 15¢**

MINIATURE DOUBLE FRENCH: Excellent for pots or edging or in very low beds.

- Butterball*. Soft yellow with maroon center; 8" high..... **MARY-10B. 15¢**
- Spry*. Yellow crested centers with red guards; 1½" ac; 9 in. high..... **MARY-10SP. 15¢**
- Sunkist*. Bright golden orange good with (10B); 1½" ac; 8 in. high..... **MARY-10S. 15¢**
- Yellow Pigmy*. A very dwarf bright yellow; 10 in. high..... **MARY-10PY. 15¢**
- Gem Mixture*. New dwarf mixture; neat form; continuous bloom..... **MARY-10GX. 15¢**

MARIGOLDS Continued on Page 216.

PIONEER SEED COMPANY — DIMONDALE MICHIGAN

Germination of Woody Plants

Cercis generally germinates in April and May, no matter when it has been planted, and a mineral soil should be used, no peat or muck. The seed coat is impermeable and for large plantings, a 30 minute soaking in sulfuric acid followed by a 2 month cold stratification. Seed may germinate the second spring.

American Bittersweet (*Celastrus*) may be slow due to its seed coat but good results may be had by planting in the fall or stratifying in moist sand or peat for 2 months at around 35-40 degrees F.

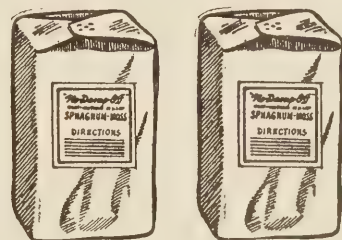
True Cedars or *Cedrus*. The seed germinates first thing in the spring and the soil should be a mineral one and one having ashes well worked into it or even all ashes. They have no dormancy.

Ceanothus makes a good wild life food plant as well as being used on dry soils. Most species have impermeable seed coats with a few also with dormant embryos. Soaking the seed at 170-180 degrees F. or even boiling water poured over the seed and allowed to stand till cool; use only enough boiling water to cover the seed well. Then stratify the seed in moist sand for 2-3 months at 32-40 degrees F.

Birch or *Betula*, generally germinates in the spring from fall sown seeds with some germinating the second year. Many of the late ripening species do best when the seed is stratified in sand or peat at 32-40 degrees for 1-2 months. Some of the species require special handling.

Rhododendrons do best in a moist mineral soil and partial shade. Many seed of *Rhododendron* are germless and because
Continued on Page 218.

SPHAGNUM FOR GERMINATING



It is simply impossible to germinate many seeds without the use of milled sphagnum moss. If you were over your seed pans all day long as the professional grower is you may find you could get along without it, but no professional grower would fail to have the fine moss on hand. It will save many a packet of valuable seed from loss due to an hours neglect, that cannot be avoided by one having other duties.

Now packed in ½ bushel boxes containing approximately ½ bushel; \$1.50 postpaid.

PEAT MOSS

Necessary in the germination of many seeds such as *Ilex*, *Vaccinium* and other acid loving plants

Postpaid
1 Peck Packages..... 70
3½ " "..... 1.30

PIONEER SEED COMPANY
Dimondale, Michigan.

ENGLISH SEEDS

The following seeds are from one of the English specialists and while some are already listed, we give the entire list here, as it will be some time yet before we can get all the seeds properly classified.

In ordering from this list, if you will mention the "E" list, it will make it possible to fill your order more quickly.

ALL PACKETS ARE 30¢ EACH....

ALLIUM Farreri.
ANEMONE pulsatilla.
 —rivularis.
ASTER diplostephoides.
 —species, mixed.
AUBRIETIA mixed.
CASTELLIJA minuat.
CYNOGLOSSUM nervosum.
DIANTHUS alpinus.
EPILOBIUM glabellum.
ERINUS alpinus.
ERODIUM manescavi.
GENTIANA acaulis.
 —hascombensis.
GERANIUM sanguineum.
GEUM montanum.
HELIANTHEMUM mixed.
HYPERICUM citrinum.
 —olympicum.
 —reptans.
IBERIS sempervirens.
IRIS chryso-graphes.
LILIUM columbianum.
 —regale.
LIBERTIA grandiflora.
MECONOPSIS Bailey.
 —integrifolia.
MORINA longifolia.
PAPAVER alpinum.
 —lateriteum.
POTENTILLA Miss Willmott.
SISYRINCHIUM bernudiana.
TIARELLA trifoliata.
VEA BASCUM Bauri.
VIOLA chantrylands.
PRIMULAS alpicola luna.
 —auricula mixed.
 —bulleyiana hybrids.
 —chungensis.
 —Cockburniana.
 —denticulata.
 —florindae.
 —florindae hybrids.
 —involucrata.
 —ioessa.
 —japonica.
 —Posiford White.
 —julii hybrids.
 —leucophylla.
 —nursis.
 —polyanthus.
 —polyeura.
 —puverulenta.
 —Bartleys Strain.
 —versis.
 —Mixed Candelabra Types.
 —Mixer Hardy Primulas.

Mention when ordering the "E" List.

ANAPHALIS NUBYANS

Anaphalis nubyanis is a most attractive everlasting, ivory white flowers with glaucous blue foliage. If picked when half out and hung up in bunches for a few weeks in an airy but shady place, they will make delightful decorative effects for Christmas. It should be planted one foot apart.

PHORMIUM TENAX

The New Zealand Flax. They not only form interesting flowering plants in the garden but give a supply of flax string for tying up plants and vines in the garden.

PLATYCODON GRANDIFLORUM

Semi-duplex. This grows to 24 inches, has double star-flowers and is very hardy. If started indoors it will flower the first year. Best in loamy soil, full sun. It is a handsome subject. (PLTY-1D. 25¢)

MATHIOLA - MECONOPSIS

MARIGOLDS Continued from Page 215.

—All African Marigolds Mixed..... MARY-AX. 10¢
 —All French Marigolds Mixed..... MARY-FX. 10¢
 —All arigolds Mixed. Contains all kinds..... MARY-X. 10¢

MATHIOLA. (mat-THY-oh-lah) STOCKS. Cruciferae.

Annuals and perennials, some subshrubs native mostly of the Med. regions and commonly known as Stocks. The flowers are in lilac, purple and white in terminal racemes. *M. bicornis* is the Evening Stock or Perfume Plant, very fragrant in the evening but the flower is closed during the day. *M. incana*, the common Stocks or Brompton Stock or Gilliflower and a type of this is the Ten-Weeks-Stock.

M. INCANA: This biennial or perennial with one annual type, sturdy, erect plants in many colors. Stocks are not only grown outdoors but make good greenhouse plants and for this purpose the seed should be planted in late autumn or early winter. For outdoor planting, seed can be started indoors in February. Seed sown in summer will make good house plants for winter. They are usually handled as half hardy subjects and in the far North would not winter over.

—**DOUBLE GIANT COLUMN STOCKS:** Immense fully double close spaced flowers, one one 2-2½ ft. spike per plant. This is strictly a non-branching strain especially used by florists. Those listed are all popular colors and the best yet developed.

—Ball's No. 2. One large white spike, tinged with pink..... MACH-2BW. 25¢
 —Ball 14.Rose-pink. Deep rose-pink, the best..... MACH-2Z. 35¢
 —Gardenia. Very large single pure white variety..... MACH-2G. 25¢
 —Purity. Non-branching pure white..... MACH-2W. 25¢
 —Schrieber's All Double. 100% double German strain..... MACH-2SX. 25¢
 —Pastel Shades. Improved Bismarck..... MACH-2PX. 20¢
 —Giant Column Blend. A hand made blend of colors..... MACH-2X. 30¢

Above kinds, per Oz. \$8.00; per 1/4 lb. \$20.00.

EARLY GIANT IMPERIAL: Of branching habit, the large flowers and long stems of this class makes it especially desirable for cutting. Very early blooming and produces a high percentage of doubles; 26 inches.

—Blood Red. Color 27 shading to 24..... MACH-3B. 20¢
 —Chamois. Ivory, color 606/3 tinged old rose 3/3..... MACH-3C. 20¢
 —Fiery Red. A Super Giant Imperial strain..... MACH-3R. 20¢
 —Rose. Deep rose-pink, 630 and 630/1 white centers..... MACH-3Z. 20¢
 —Rose Charm. A Super Giant Imperial strain..... MACH-3C. 20¢
 —Roselight. Beautiful rose colored variety..... MACH-3RL. 20¢
 —White. Early strain..... MACH-3W. 15¢
 —Giant Imperial Blend. A carefully hand made blend of colors..... MACH-3X. 20¢
 All Giant Imperial varieties: Oz. \$2.50; 1/4 lb. \$7.75.

TEN-WEEKS-STOCKS: Dwarf, compact, branching and fine for bedding; sweet scented; 12 inches tall. Usually grown as an annual and very popular for outdoors on account of its earliness. Listed as Dresden Stocks and Cut-and-Come-Again. Start seeds early in the spring, either indoors or outside where they are to grow.

—Dark Blue. Large flowered double dark blue..... MACH-4D. 15¢
 —Dwarf German Mixed. Choice double dwarf German Stocks..... MACH-4XG. 20¢
 —Finest Mixed. All colors and shades in best blend..... MACH-4X. 15¢
 All TEN-WEEK-STOCKS: Ounce, \$1.75; 1/4 lb. \$15.00.

GIANTS of CALIFORNIA: Superb branching type producing immense spikes of 2 inch florets and averaging better than 70% double, one mammoth spike per plant can be produced when planted 4-5 inches apart in beds. Best strain for commercial growers.

—Exquisite Mixed..... MACH-6X. 25¢
GIANT BEAUTY OF NICE or MAMMOTH: These come into flowering as early as the Ten-Weeks Stocks and form a pyramidal-shaped plant; most popular for general garden growing; 1½ feet high.

—Snow White. Pure white variety..... MACH-5W. 15¢
 —Copper Scarlet..... MACH-5C. 15¢
 —Salmon. One of the popular colors..... MACH-5S. 15¢
 —Silver Lilac. Mammoth Excelsior. Large lavender fls..... MACH-5S. 15¢
 —Silver Pink..... MACH-5SP. 20¢
 —Beauty of Nice Blend. All colors blended..... MACH-5X. 15¢
 —Brilliant Rose..... MACH-5Z. 15¢
 —New Mammoth Hybrids..... MACH-5H. 15¢
 —Early Branching Mixed. Early strain in mixed colors..... MACH-5EX. 15¢

PERPETUAL BRANCHING or GIANT PERFECTION: An early double flowering strain, a favorite with the florist; high double percentage and strictly hand blended; 2 ft.

—Perpetual Blend..... MACH-6X. 20¢
 —Dresden Perpetual Blend. Giant Perfection type; extra..... MACH-6DX. 15¢

LARGE FLOWERED DOUBLES:

—Light Blue..... MACH-7B. 15¢
 —Snow White..... MACH-7W. 15¢
 —Dwarf Strain Mixed. Extra nice..... MACH-7DX. 15¢
 —Double Choice Mixed..... MACH-7X. 15¢
 —Brilliant Rose. Large flowered..... MACH-7Z. 15¢
 —Crimson. Double large flowered..... MACH-7C. 20¢
 —bicornis. Lilac fls; July-Sept; sow early; 15"; HA..... MACH-2. 20¢
 —crassifolia..... MACH-12. 25¢

MATRICARIA. (mat-re-KAY-re-ah) MATRICARY. Compositae.

Mostly annuals and a few perennials, with finely cut foliage and small flower heads. They are easily grown. There is little difference between them and *Chrysanthemums*. *Chamomilla* is also included here; treat them as you would *Chrysanthemums*.

—Indora v. Bridal Rose. Very double heads white ray fls; 2 ft; HA..... MATI-3B. 15¢
 —Snowball. Small double heads of white ray-fls; 2 ft; HA..... MATI-3S. 15¢

MAURANDIA. (mau-RAN-de-ah) Scrophulariaceae.

Bright flowered plants, mostly vines, for the greenhouse or far South. If the seed is sown early they make excellent plants for baskets and vases in the open during the summer. For winter grow in the greenhouse at 60 degrees F in fibrous loam with leaf mold and cow manure.

—scandens. Purple fls 1" long; TP..... MAUR-8. 25¢

PLEASE NOTE: The symbols used for ordering each kind of seed will make it not only easier for you to order, but also more definite as to the exact strain or variety, especially in many kinds where the listing is complex; in ordering make our symbols very plain, for instance here in *Linum*, the symbol is LINM and there is also a LINN symbol used for *Linnaea*; it is easy to make the M and N to look alike.

PIONEER SEED COMPANY

DIMONDALE MICHIGAN

MIGNONETTE - MONARDELLA

MECONOPSIS. (me-kon-OP-sis) Papaveraceae.

Annuals, biennials and perennials requiring a cool moist summer, a sheltered partly shaded place. They make attractive plants in the border. Start the annuals early indoors, setting out after frost danger is passed; the perennials are best started in a frame over the first summer. Flowers are in racemes or panicles; some are hardy, others semi-hardy in the North; the Northwest Coast states have ideal climate for them. Do not disturb after establishing them.

- betonicifolia.** Purple fls in clusters 2" ac; 6 ft; HP..... **MECO-2.** 25¢
- Baileyi.** Not much different to the above..... **MECO-2B.** 25¢
- cambrica.** Welch Poppy. Pale yellow fls 3" ac solitary; 1½ ft; HP..... **MECO-3.** 25¢
- aurantiaca.** Orange flowered type of above..... **MECO-3A.** 25¢
- cathcartii.** Golden yellow fls, 2-3" ac; HP..... **MECO-5.** 25¢
- horridula.** Light blue or claret solitary fls; 5 ft; HB..... **MECO-9.** 25¢
- integrefolia.** Yellow Chinese Poppy. Yellow fls 6" ac; 3 ft; HB..... **MECO-10.** 25¢
- napaulensis.** Satin Poppy. Pale blue satiny fls 2" ac; 6 ft; HP..... **MECO-13.** 25¢
- paniculata.** Yellow fls 2" ac, racemes 2 ft. long; 5 ft; HP..... **MECO-14.** 25¢
- quintuplinervia.** Lavender to purplish fls 3½" ac; RG; 1 ft; HP..... **MECO-16.** 40¢
- simplicifolia.** Nodding blue or purple solitary fls 3" ac; 2 ft; HP..... **MECO-18.** 40¢
- Meconopsis Mixture.** All species mixed..... **MECO-X.** 25¢

MELIA (MEE-lee-uh) Bead-tree. Southern trees or shrubs standing 25 degrees F. Best planted in fall. **Azedarach.** China-berry, Pride-of-India; tr 50 ft.... **MELA-3.** 35¢

MELISSIA. (mel-LISS-uh) Balm, **officinalis.** Lemon Balm; aromatic; 2 ft; white fls; sweet herb, for teas, etc.... **MELS-1 (C).** 30¢

MERCURY: See *Chenopodium Bonus-Heuricus*. Perennial pot herb.

MICHELLA (my-KEE-le-ah) Magnoliaceae.

- Trees and shrubs from Asia much like Magnolias and grown only in the South.
- cathcartii.**..... **MICH-1.** 25¢
- excelsa.**..... **MICH-4.** 25¢
- lanuginosa.**..... **MICH-8.** 25¢

MIGNONETTE. (Reseda) Resedaceae.

Mignonette belongs to the genus *RESEDA* of which there are 3 or 4 species with *R. odorata* is the common Mignonette. They are noted for their fragrance, are tender annuals and when started indoors are best handled in pots as they do not transplant easily. Thrives in a cool moderately rich soil in partial shade; in the greenhouse grow in cool part around 48 degrees F; they are very popular.

RESEDA ODORATA: Comes in shades of blue.

- Allen's Defiance.** Compact, florets immense size; very fragrant..... **MIG-1A.** 15¢
- Machet Giant.** Pyramidal growing plants, very nice; 12"..... **MIG-1M.** 15¢
- Golden Goliath.** Golden yellow fls; 12"..... **MIG-1MG.** 15¢
- Red Goliath.** Large red fls; special strain; 12"; fragrant..... **MIG-1MR.** 15¢
- White Goliath.** Best large white..... **MIG-1MW.** 15¢
- Bismarck.** Beautiful flat top and large spikes..... **MIG-1B.** 20¢
- Gabrielle.** Robust, heavy red spikes..... **MIG-1G.** 15¢
- grandiflora.** Large flowered, 16" tall..... **MIG-1F.** 15¢
- Red Monarch.** Deepest red; perfect form..... **MIG-1R.** 15¢
- Victoria.** Brilliant red; prize won..... **MIG-1V.** 15¢
- Mignonette Blend.** All varieties mixed..... **Oz.** 30¢ **MIG-X.** 10¢

MIRABILIS. (my-RAB-e-lis) **FOUR O'CLOCKS, MARVEL OF PERU.** Nyctaginaceae.

Annuals and perennials, all of which are tender and grown as tender annuals in the North. The seeds are best sown where the plants are to grow and in the fall the roots can be taken up and stored in the root cellar over winter.

- Jalapa.** Four O'Clocks. Red, yellow, white; 3 ft; TP as TA 25¢ **Oz.**..... **MIRA-6X.** 15¢
- Dwarf.** A dwarf compact type in red, yellow and white; 2 ft..... **MIRA-6DX.** 15¢
- Dwarf Variegated.** Variegated leaves; mixed colors; 2 ft..... **MIRA-6DV.** 20¢
- longiflora v. White.** White fls; 3 ft; TP grow as TA..... **MIRA-7V.** 20¢
- Violet.** Violet fls of same..... **MIRA-7V.** 20¢
- Mixed.** Violet and white mixed..... **MIRA-7X.** 15¢
- uniflora.** Bright rose; showy and unusual; free blooming..... **MIRA-10.** 20¢
- Mirabilis Blend.** All kinds mixed..... **Oz.** 25¢ **MIRA-X.** 15¢

MOLTKIA petraea. (Lithospermum) Deep blue fls; HHP..... **MOLT-5 (C).** 35¢

MONARDELLA. (mon-ahr-DEL-ah) Labiatae.

Fragrant western American plants both annual and perennial. They are grown in the rocky in light sandy soil. Native of California.

- villosa.** Purple, pink and white 2-lipped fls; hot places; 6"; HP..... **MONA-8.** 30¢

MONARDA. (mon-NARD-uh) Horse-mint. Labiatae.

Annuals and perennials native to N. Am. They are striking plants in groups in the border or in beds with their showy clusters of flowers. There is room for improvement in many species for any flower grower having an urge for this interesting work.

- superba rosea.** Large rose flower heads..... **MOND-3S (C).** 40¢
- alba.** White flowered variety..... **MOND-3A (C).** 35¢
- didyma.** (Kalmiana) Bee Balm; terr. cl; bedding or border; 3"; HP **MOND-3 (C).** 25¢

MUSCARI. (mus-KAY-ry) **GRAPE HYACINTHS.** Liliaceae.

Spring blooming bulbs with urn-shaped nodding fls in racemes or spikes. They are easily grown, both from seeds and bulbs; for the latter see the fall bulb listing. Used especially for colonizing in mass plantings.

- azureum.** (Hyacinthus) Fls in erect racemes, 1 ft; HP..... **HYAC-2.** 25¢
- comosum.** Blue or violet fls; 1 ft; HP..... **MUSC-3.** 25¢

MONTIA. (MONT-ee-uh) Portulacaceae.

Small plants with fleshy leaves, one grown as a salad or pot herb. Sow seeds where plants are to grow, in spring or summer.

- perfoliata.** Winter Purslane. Salad herb; 6"; TA; See Herb List..... **MONT-4.** 25¢

MYOSOTIS. (my-oh-SOH-tis) **FORGET-ME-NOTS.** Boraginaceae.

(16 days)

Small annuals, biennials and perennials with many small blue, rose or white flowers in terminal racemes. They thrive in a cool moist partially shaded places. They are grown in the low border and are especially nice. They bloom the second year or if **MYOSOTIS Continued on Page 218.**

PIONEER SEED COMPANY — DIMONDALE MICHIGAN

PRIMULA KEWENSIS

Primula kewensis is a hybrid that originated at the Royal Botanic Gardens, Kew, England, over fifty years ago, and that, unlike most hybrids, freely produces fertile seed which breeds true. It develops basal rosettes of glossy, wavy-edged leaves, and flowers in winter. The yellow flowers are nearly an inch across, borne in one or two whorls on foot-high stems.

This plant is usually regarded as requiring cool greenhouse treatment, but it can be grown with ease by anyone who has a sunny basement window where the temperature will remain above freezing. Seed should be sown in early spring (freezing will not hurt the seeds) in rich loam. When the seedlings have two or three small true leaves, they may be potted up singly in very small pots or spaced about an inch apart in flats. As the plants increase in size, they should be shifted to larger pots; a 4" one should be large enough for the plant at flowering time.

During the summer the young plants should be kept outside in light shade, and, of course kept well watered; when frost threatens they may be moved into the basement window, where they will keep growing and will come into flower in late winter.

THE FRANKLINIA TREE

(Continued from page 209)

Gresaham, we believe we have popularized the beautiful Franklinia tree so that today even inquiries have been received from Germany and England for seed. We wish to establish a northern line for this tree and in order to do so it will be necessary for our readers to drop us a postal stating the location of trees that have stood five winters when we can finally publish a map showing their locations; it would also be nice if owners of flowering trees would advise of their locations and date of flowering, if they are willing for visitors to see their trees. We will be pleased to give space to this.

We might caution those planting seed that the Franklinia requires an acid soil and thus the seed will germinate better in peat or such seed mediums. We are not aware of any dormancy in the seed and would appreciate hearing from any one having experience in germinating much of the seed.

(Continued from Page 213)

the Letter given to the list, is mentioned as the packer can then go direct to the seed without having to ask someone else. The letters "F", "C", "W", etc., represent the collector or grower and is added to the symbol in the 2-column listings.

HELENIUM BIGELOWII

This was originally named by Asa Gray in honor of Jacob Bigelow. Gray deliberately used the V since the classical Latin alphabet contained no letter W and thus the original spelling holds.

George Lawrence, Bailey Hortorium.

RAPHIOLEPIS OVATA

Slow growing, neat, compact evergreen shrub from Japan, 3-6 feet; thick leathery, dark foliage; flowers are small, white and in clusters followed by small blue-black fruits; it is hardy in the Southern States.

haemanthus: (hee-MANTH-us), blood-red flowers.

integer: (inn-TEJ-er), unbroken or entire.

hortensius: (hor-TEN-see-us), of gardeners.

GERMINATION OF WOODY PLANTS

Continued from Page 215.

there is no way to remove them from the good seed, they will usually show only a "partial germination". There is no seed dormancy.

In nursery practice sow seeds in flats containing a soil of sandy peat to which has been added a pulverized decayed oak litter. Sow seeds on the surface of the soil, press down and cover lightly with fine sphagnum, cover with glass and water from below. The seed takes 10 to 25 days to germinate.

HARD-TO-FIND FLOWER SEEDS F LIST

(F) List of Hard-to Find Flowers continued from page 211. If you will indicate your selection as from the (F) list it will make it easier to fill your order. The abbreviations at the end of each line indicate the botanical authority for the name and need not be written in your order.

ALL PACKETS ARE 40¢ EACH

SAXIFRAGA aizoides.	L.
—aizoon.	Jacq.
—moniana.	
—crustata.	
—Stabiana.	
—typica.	
—androsacea.	L.
—anormalis.	
—aretoides.	Lap.
—biflora.	All.
—alba.	
—caesia.	L.
—caucasica.	Somm.
—x Churchillii.	Hut.
—x Clarkii.	Sund.
—cochlearis.	Rchb.
—coriophylla.	Gries.
—cotyledon.	L.
—cultrata.	Vest.
—decipiens.	Ehr.
—Hostii.	Tausch.
—intermedia.	Sweet.
—Jenkinsii.	hort.
—longifolia.	Lap.
—lingulata.	Bell.
—oppositifolia.	L.
—pedemontana.	All.
—Portae.	Stein.
—virginensis.	Michx.
—rhocopea.	Vel.
SCUTELLARIA alpina.	L.
—alba.	
—versicolor.	Nutt.
—minor.	Huds.
SEDUM aizoon.	L.
—algidum.	Ledeb.
—Albertii.	Rgl.
—amacampseros.	L.
—crassipes.	Wall.
—Ellacombianum.	Pr.
—hispanicum.	L.
—intermedium.	Rupr.
—Kamtschaticum.	P-N
—Middendorffianum.	Max.
—Newii.	Gray.
—nicaense.	All.
—obtusatum.	Gray.
—oreganum.	Nutt.
—pilosum.	M. B.
—Pruinosum.	Cal.
—Telephium ssp maximum.	Camus.
—spurius.	
—album.	
—splendens.	hort.
SEMPERVIVUM albidum.	Schn.
—brevifolium.	
—Chavini.	Lagg.
—gracile Christ.	
—hybrida Beia.	
—Gamma.	
—Kopaonikense.	Pan.
—Kuendigeri.	Adam.
—montanum.	L.
—spinosissimum.	hort.
—Wulfenii.	Hoppe.
SENECIO abrotanifolius.	L.
—alpinus.	Scop.
—Biebersteinii.	
—coriaceus.	All.
—Doromicum.	L.
—Tyroensis.	
—uniflorus.	All.
SESELI montanum.	
—caespitosum.	S. S.
—glaucium.	L.
SIDALCEA candida.	Kray.
—malvaeflora.	Gray.

NASTURTIUMS

MYOSOTIS Continued from Page 217.

started early, in the fall of the first year.

VARIETY LISTING: We list here all the varieties following; some belong to a species but most are hybrids of superior breeding.

—A. Fischer. Deep blue, large fls; very choice; 8 in.	MYOS-1A. 25¢
—Blue Ball. Deep indigo blue; compact ball-shaped plants, 10"	MYOS-1B. 25¢
—Blue Bird. A large flowered variety in dark blue.	MYOS-1D. 25¢
—Blue Eyes. Pretty bright blue with white eye.	MYOS-1E. 25¢
—Boden. A Swiss variety of perfect form; very dark blue fls.	MYOS-1N. 25¢
—Gerda Seager. Blooms 8-10 days earlier; pretty blue.	MYOS-1S. 25¢
—Marga Seager. Excellent pot plant for forcing; large blue fls.	MYOS-1R. 25¢
—Messidor. Rich blue color.	MYOS-1M. 25¢
—Star of Love. Sky blue, nice pot plant; floriferous.	MYOS-1T. 25¢
—Sylphe. A pure white form.	MYOS-1W. 25¢
—Victoria. Dwarf, dark royal blue.	MYOS-1V. 25¢
—Mixed Myosotis. All the varieties equally mixed.	MYOS-X. 20¢
—arvensis. White and blue; best for naturalizing; 18"; HA or HB.	MYOS-2. 15¢
—Indigo Blue. Very deep blue form.	MYOS-1G. 25¢

MYRICARIA (mye-rik-KAY-ree-uh) germanica False-tamarisk. Decd. woody plant; 6 ft; fls in terminal bracted racemes; HSH. MYRR-1 (C). 35¢

MYRRHIS (MIHR-iss) Sweet Cicely. odorata. Grown for sweet scented leaves; sow seeds when ripe for best results; HP. MYRR-1 (C). 35¢

MULGEDIUM: see Lactuca.

NASTURTIUM. (nas-TUR-ee-um) (Tropaeolum) Tropaeolaceae. (8 days)

This is a much confused classification with Water Cress, Nasturtium officinale being the only listed species. The flowers listed in the trade and also commonly known as Nasturtiums belongs to the Tropaeolaceae Family, with the genus Tropaeolum being the only member. It has several species, including the Canary Bird Flower. The species major includes all the commonly grown Nasturtiums, both bush and climbing.

Grow them as tender annuals giving them a warm sunny position, planting seed direct to the soil. They also can be started in pots for setting outdoors when the weather is warm; they are tender and will stand no frost. They can be planted even in June here in Michigan. They are good for the Tulip beds, using the climber or tall type.

—Canary-Bird-Flower: see Tropaeolum peregrinum. A good annual climber.

SEMI-DOUBLE GLEAM: A very popular type, with double and semi-double flowers.

The plants grow to 18" tall and are excellent for cutting Oz. 30¢; 1/4 lb. 80¢.

—Crimson Glow. Deep glowing golden orange.	NAST-1C. 15¢
—Fire. All double bright scarlet.	NAST-1F. 15¢
—Golden Gleam. A lovely golden yellow variety.	NAST-1G. 15¢
—Indian Chief. A new double, sweet scented, dark leaves.	NAST-1N. 15¢
—Moon. Semi-double yellow.	NAST-1M. 15¢
—Orange Gleam. One of the best orange varieties.	NAST-1A. 15¢
—Salmon Gleam. Lovely and popular.	NAST-1S. 15¢
—Scarlet Gleam. An excellent red variety.	NAST-1L. 15¢
—Gleam Mixture. Contains all the colors and many hybrids.	NAST-1X. 15¢

GLOBE TYPE: Giant double flowers in all the colors; plants compact, 12" tall and excellent in beds, etc. Oz. 30¢; 1/4 lb. 90¢.

—Black Beauty. Deep scarlet flowers and very dark foliage.	NAST-2B. 15¢
—Delightful. Soft salmon-cerise.	NAST-2D. 15¢
—Scarlet Emperor. Fine scarlet and dark foliage.	NAST-2E. 15¢
—Golden Globe. One of the best golden yellows.	NAST-2G. 15¢
—Golden Rose Emperor. Lovely rose color with dark leaves.	NAST-2R. 15¢
—Mahogany Gem. Deep mahogany color.	NAST-2M. 15¢
—Scarlet Globe. Very popular scarlet.	NAST-2S. 15¢
—Globe Type Blend. Made up of many varieties.	NAST-2X. 15¢

DWARF or TOM THUMB TYPE: These all have single flowers, the plants growing about 12" tall. They will stand more neglect than the double type.

—Empress of India. Velvety dark scarlet with dark leaves.	NAST-3E. 15¢
—Faltham Beauty. A rich brilliant scarlet.	NAST-3F. 15¢
—Golden King. A rich golden color.	NAST-3G. 15¢
—Fireball. Compact, dark leaves, bright scarlet fls well above foliage.	NAST-3B. 15¢
—King of the Tom Thumbs. Bright scarlet; dark leaves.	NAST-3C. 15¢
—King Theodore. Dark red; dark foliage.	NAST-3T. 15¢
—Lady Bird. Lovely rich yellow, scarlet spotted; dark leaves.	NAST-3L. 15¢
—Ruby King. Ruby-red flowers; dark foliage.	NAST-3R. 15¢
—Vesuvius. Brilliant salmon-rose; dark leaves.	NAST-3V. 15¢
—Single Mixed. Contains many fine varieties; all single flowers.	NAST-3X. 15¢

TALL or CLIMBING TYPE: These will grow 3'; should have some support; Oz. 30¢.

—Chamelon. Comes in several blends of colors.	NAST-4C. 15¢
—Dunnett's Orange. One of the best orange varieties.	NAST-4D. 15¢
—King Theodore. Dark foliage and dark red flowers.	NAST-4K. 15¢
—Pearl. Lovely cream white.	NAST-4P. 15¢
—Prince Henry. Lovely yellow with red spots.	NAST-4H. 15¢
—Salmon Rose. A showy color.	NAST-4SR. 15¢
—Von Moltke. A lovely rosy blue.	NAST-4V. 15¢
—Tall Blend. Made up of many varieties.	NAST-4X. 15¢

NEPETA. (NEP-e-tah) CATNIP. Labiatae.

Aromatic annuals and perennials with white and blue flowers in whorls, clusters or spikes. Some species are very pretty and can grow in shady places. They all are easily grown from seed.

—Cataria. Catnip. Whitish or pale purple fls; 1 1/2 ft; HP.	NEPE-3. 10¢
—Mussinii. Blue fls with dark spots; bushy; pretty; 18"; HP.	NEPE-10. 15¢

OENOTHERA. (ee-noh-THEE-rah) EVENING PRIMROSE. Onagraceae. (5 days)

A very large and extended group of annuals, biennials and perennials, all sun loving, dry land plants easily grown from seed. The common color is yellow with some reds and pinks.

—Drummondii. Bright yellow 2" ac; 1-2 ft; HA.	OENO-23. 15¢
—fruticosa. Showy yellow fls 2' ac; dry land; 1-3 ft; HP.	OENO-26. 15¢
The correct classification now is Erythrosepala.	
—rhombipetala. Yellow fls 2" ac; 4 ft; HB.	OENO-51. 20¢
—missouriensis. Yellow fls 4-6" ac; showy; 1 ft; HP.	OENO-40. 15¢
—odorata. Yellow fls fading to reddish, fragrant; to 4 ft; HA.	OENO-43. 15¢

OENOTHERA Continued on Page 219.

PIONEER SEED COMPANY

DIMONDALE MICHIGAN

OENOTHERA - ONOSMA - PANSY

OENOTHERA Continued from Page 218.

- Lamarckiana. Yellow fls 2" ac; 3 ft; HP..... OENO-33. 15¢
 —Oenothera Mixture. All species mixed..... OENO-X. 15¢

ONONIS. (on-NOH-niss) REST-HARROW. Leguminosae.

They are easily grown and are good plants for the border or rockery. Flowers are either solitary or in racemes.

- rotundifolia. Bright rose; shrubby; 1½ ft; HP..... ONON-15 (C). 35¢
 —helveticum. A Swiss form..... ONOS-8H (C). 35¢
 —rupestre. Pale yellow; Caucasus; 6"; HP..... ONOS-7 (C). 35¢
 —lauricum. Revolute lvs; fls 1½" long..... ONOS-8T (C). 35¢
 —tubiflorum. Fls 1½" long; Bulgaria; HP..... ONOS-10 (C). 35¢

ONOSMA. (oh-NOZ-mah) Boraginaceae.

Annuals, biennials and perennials with extremely attractive flowers in white, yellow or purple in one-sided clusters. They do well in sun or shade and are suitable for the border or rockery. Not hard to grow.

- stellulatum v. lauricum. Gold Drop. Golden yellow; wall plant; 8"; HP.... ONOS-8. 25¢

OPHIPOGON. (o-fe-o-PO-gon) LILY TURF Liliaceae.

Turf forming plants with racemes of small whitish flowers and grass-like leaves, often striped and spotted with white or yellow. Useful for turf and border edgings that require no clipping. They are not extra hardy and in the North some are hardy up to Michigan. Grow in sun or shade.

- Clarkei..... OPHI-4. 30¢
 —intermedius..... OPHI-6. 30¢

ORNITHOGALUM. (or-nith-THOG-alum) Liliaceae.

Bulbous plants with white, yellow or reddish fls in bracted racemes or corymbs. The tender species are grown in pots or in greenhouses.

- pyrenaicum. Yellow flowers..... ORNI-13(C). 30¢

OTHAKE: See Polypteria Hookeriana.

OXYPETALUM (ox-PET-al-um) caeruleum. Twining herb. pl; blue flowers; for the South..... OXYP-1. 25¢

PANSY. (Viola tricolor) Violaceae.

(8 days)

Pansies are best grown as a hardy annual or biennial, especially in the North. They do best in a rich sandy soil and not exposed to the hot winds; they stand some shade. Seed can be started indoors very early in the spring and the plants shifted to flats and grown on to some size in the frame where they can have shade and water or they can be planted as late as the first of August and the seedlings after they have rooted in the flats from the first transplanting, they can then be set in their outdoor beds. Pansies are definitely cool weather plants and the hotter the winds and the sun, the less success.

GIANT FLOWERING SWISS GIANTS: Large flowering Pansies in all colors and combinations. They are very popular both for the home plantings and with the commercial growers who grow for the box trade. Write for prizes in quantity.

- Alpenglow. A large flowered scarlet..... PANS-1A. 25¢
 —Berna. Velvety dark blue..... PANS-1B. 25¢
 —Black King. Dark black, one of the few black flowers..... PANS-1K. 25¢
 —Blumilalip. Soft rose with beautiful velvety blotch..... PANS-1L. 25¢
 —Claret. A beautiful wine red..... PANS-1C. 25¢
 —Flame. Attractive orange scarlet..... PANS-1F. 25¢
 —Mont Blanc. The best pure white..... PANS-1W. 25¢
 —Orange Sun. A new bright orange variety..... PANS-1S. 25¢
 —Rheingold. Deep golden yellow with dark blotch on lower 3 petals..... PANS-1R. 25¢
 —Silver Bride. A clear glistening white..... PANS-1V. 25¢
 —Ullswater. Marine blue with darker blotch; very showy..... PANS-1U. 25¢
 —Yellow Master. Exceptionally fine deep yellow..... PANS-1Y. 25¢
 —Swiss Giant Blend. Our best blend of varieties..... ¼ Oz. \$1.25 PANS-1X. 20¢
 —W-F Swiss Giant Blend. A magnificent blend characterized by a predominance of rich velvety dark reds and browns together with uniformly compact plants and full rounded flowers; California grown seed..... ¼ Oz. \$2.75; Oz. \$9.00 PANS-1WX. 25¢

VARIOUS PANSY STRAINS: These are all large flowered types and only the best strains are listed. They include all types.

- Cassier's Giants. Golden yellow giants, all with large blotch..... PANS-2C. 25¢
 —White. Large white fls with dark blotch, showy..... PANS-2CW. 25¢
 —Three Bloches. Showy colors all with 3 large dark blotches..... PANS-2CT. 25¢
 —Cornation Gold. Giant pure golden yellow; very showy..... PANS-2N. 25¢
 —Englemann's Giants. With lighter tone around edges; no solid colors..... PANS-2E. 35¢
 —Maple Leaf. Husky growers, dark green fol; full color range..... PANS-2M. 25¢
 —Masterpiece. Daintily ruffled and frilled; rich in reds and browns..... PANS-2P. 25¢
 —Orchid-Flowered. Waved and curled petals in a choice color range..... PANS-2H. 25¢
 —Scottish Exhibition. Mammoth fls heavily blotched; circular outline..... PANS-2R. 25¢
 —Florist or Market Strain. An extra choice hand made strain containing a good proportion of yellow, reds and blotched flowers with some new types added..... PANS-2F. 25¢
 —Oregon Giants. Bright blend of giants; California grown seed..... PANS-2G. 25¢
 —101". NEW market grower strain in a beautiful selection of colors..... PANS-2B. 25¢

V. hiemalis: Ice Pansy. They flower very early, even in the snow, and while the flowers are smaller than the regular Pansy, they are distinct and showy, especially for the time of the year when they flower. They should be given a place in the garden or rockery so as to be protected from the hot summer sun.

- Blue Boy. Showy silver blue..... PANS-3B. 20¢
 —Claret. Beautiful wine red flowers..... PANS-3C. 20¢
 —Celestial Queen. Brilliant light blue..... PANS-3Q. 20¢
 —March Beauty. Dark velvety purple..... PANS-3M. 20¢
 —Winter Sun. Golden yellow with showy dark blotch..... PANS-3S. 20¢
 —Zurich Sea. Very showy light blue..... PANS-3Z. 20¢
 —Woden. Black; king of the spring garden..... PANS-3W. 20¢
 —Hiemalis Blend. All varieties mixed..... PANS-3X. 20¢

PANSY BLEND.. Contains all the kinds listed above..... PANS-X. 20¢

STEELE'S MAMMOTH PANSIES:

The following Pansies are direct from the Steele Pansy Seed Gardens and of their 1951 crop. These Pansies have enjoyed a world wide reputation for over thirty years.

PIONEER SEED COMPANY — DIMONDALE MICHIGAN

Surface Moisture in Germinating Seeds

(Continued from Page 209)

covering of soil at all, or scarcely any, they can be watered through the burlap without washing them about. As a matter of fact, with the burlap covering, only about a quarter as much watering need be done, and sometimes the seeds will even germinate on the moisture provided by one watering at the time of sowing. Of course, we must lift the corner of the burlap from time to time, and when the seedlings are appearing on the surface of the soil, the burlap must be removed before they penetrate through it. For some seeds, such as honeysuckle seed to produce plants that are not to be transplanted out till the following spring, the burlap could be left on to rot away. I even use the burlap covering for tomato seed. For tomatoes one must especially be careful to take off the cloth covering soon enough, for if it is pulled away after some of the seedlings have penetrated through it, many of the seedlings have penetrated through it, many of the seedlings will be pulled out of the soil or broken off and destroyed.

I have never tried the burlap method of germinating seeds out of doors, but consider that it would be very successful. If long strips, about three inches wide, were cut and laid over the row, burlap could even be an aid in germinating ordinary garden seeds in the garden in dry years. If watering is necessary in order to provide the moisture for germination, the burlap covering would be especially desirable, for watering with a watering can hardens the soil and makes it crust more than showers of rain, through no more than do heavy rains. The burlap covering would prevent this crusting and give the seeds their chance. One would be more inclined to get caught in leaving the burlap on such rows too long than in the case of seed sown in flats, but, for some seeds at least, presumably no harm would be done if it remained on all summer and it might possibly have some effect in turning the cutworms the other way.

Prairie gardeners are coming more and more to sow their tomato seed right out in the garden where the plants are to remain. I would consider the narrow burlap strip especially helpful for this plant. Tomato seed is not ordinarily as easy to germinate out of doors as the seed of other garden vegetables. Tomatoe plantlets do not seem to have the same power to penetrate a partially hardened soil as do other seeds of comparable size or even smaller. Thus tomato seed cannot be sown as deep as other seeds of the same size. In fact, if surface moisture can be maintained, sowing almost on the surface is desirable and brings quick results and a larger percentage of plants.

Raising shrubs and trees from seed is something that should be done oftener by the Canadian gardener. For the price of a package or ounce of seed, one can obtain as many honeysuckles, lilacs, flowering cherries, flowering currants, spruces, pines, tamaracs and junipers as he can use, provided of course that he is willing to pay another price in taking care to give the seed a chance to germinate after he does get it. The requirements for good germination are really not very difficult, if one knows what the problem is and how to meet it.

Sage should be cut back in the spring to produce nice tender stems.

Cut Wormwood back to the ground in the spring.

Helleborus or the Christmas Rose

Fine as are all of the forms of Helleborus, or Christmas Rose, all, I believe, must yield pride of place to H. niger St. Brigid. This variety was found many years ago in the gardens of an ancient castle in County Cork in Ireland. St. Brigid has immense pure white flowers of exquisite shape, and there are invariably two of them ideally placed on a long, stout stem. It is a superb variety.

Three years ago some seed were sown which has been saved from St. Brigid, and as they were put in as soon as they were ripe, they germinated quickly. If seed is kept for any length of time it will become dormant for a year before it germinates and thus it is well to stratify the seed in moist sand during the winter months at a temperature above freezing when it should be planted early in the spring.

The seedlings raised from that seed flowered this year and all of them are good; some have flowers richly suffused with rose, and others are immaculate in their purity. I have one plant amongst them whose flowers are wholly pink or a soft rose, and I look forward to seeing this flower again after the plant has gained a little more strength through age. The flowers are wonderful for such a young plant and many of them had two on a stem and several had six petals instead of the usual five. The beautifully formed blossoms are very lovely, and in the center of each there is a green ring which, along with the boss of golden stamens, intensifies the purity of the flowers.

Many crosses have been made between H. niger and H. orientalis, and the fine varieties known as the Lenten Roses are the result, but for some reason little crossing has been done between the varieties of the Christmas rose.

The true Christmas Roses, the forms of H. niger, last well when cut and put in water; in fact, few flowers can vie with them in this respect. The flowers will last for as long as a month in perfect and unsullied purity, and they then gradually assume a green tint. They may last for six weeks before showing signs of fading.

Christmas roses love a position in semi-shade, and will amply repay liberal treatment in the way of manure. After planting, all they ask for is to be left alone for a year or two.

THE MARCH HERB GARDEN

Sow seeds outdoors of borage, chervil, coriander, fennel, parsley and purslane.

Sow seeds indoors of sweet and bush basil and sweet marjoram.

For new beds transplant alecost, balm, chives, fennel, horehound, hyssop, lavender, pot marjoram, mint, Welsh onion, horse radish, rue, sage, tarragon and thyme.

Manure the pennyroyal bed.

Trim sage plants.

OXYPETALUM CAERULEUM

A tender semi-woody perennial from Argentina; 1-2 feet, full sun; dry well drained soils; flowers are one inch across in an unusual shade of blue (roughly sky-blue). It can be grown in California and the South.

inermis: (in-ERM-iss), without thorns or spines; unarmed.

incomparabilis: (in-kom-par-RAB-il-iss), excelling.

PASSIFLORA - PETROCALLIS

They are especially noted as the Mammoth Pacific Pansies.

JUMBO STRAIN:

- Pay Dirt. Largest golden yellow ever produced; dark rays and tiny dark faces; sistant to the summer heat..... PANS-4P. 50¢
- Jumbo Baconsfield. Upper petals rich lavender, lower deep violet; no blotch; beautiful..... PANS-4B. 50¢
- Jumbo Bronze Tones. Blend of many grand colors ranging from old gold, rich copper and sunset tones to deep browns. Many smoky blue-bordered types, rosy toned bronze beauties, all of excellent texture and immense size.... PANS-4Z. 50¢
- Madam Steele. Huge jumbo purple selection; wonderful for adding velvet violet shades for those wishing darker colors. No faded or magenta tones PANS-4S. 50¢
- Jumbo Blend. Many new and unique colors, pastel orchids, apricot, yellows, blues, brass tones, copper bronze, purple, reds, in addition to many multi-color combinations and selfs; flowers to 5 inches across..... PANS-4X. 40¢

1/16 oz. \$3.50; 1/4 oz. \$7.50; 1 oz. \$22.00.

STEELE'S BEDDING TYPES:

- Mile. Irene. Copper-red, bronze red and henna sheds. Lighter and brighter than Gorgeous. Some brilliant pure red tones; 1/4 oz. \$8.00..... PANS-5M. 30¢
- Golden Gate. Fine golden yellow with three dark blotches; very resistant to heat;
- Adonis. Light blue shades, most of which show small white face in center of bloom; marked with darker blotches 1/4 oz. \$5.50..... PANS-5A. 30¢
- Blend of Bedding Types. Hand made blend of above..... 1/4 oz. \$5.50..... PANS-5X. 25¢

STEELE'S SWISS GIANTS:

- Sea Blue. Intense blue with dark blotch; excellent..... PANS-6S. 30¢
- Gorgeous Red. Reddistr Pansy, with deeper blotch..... 1/4 oz. \$5.50..... PANS-6G. 30¢
- Super Swiss 400 Mixed. 1/4 oz. \$6.00; 1 oz. \$19.00; 1/4 lb. \$60..... PANS-6X. 25¢
- Butterfly Hybrids..... 1/16 Oz. \$3.75; 1 Oz. \$26.00..... PANS-7X. 35¢
- Pastel in character in shades of pink, rose, apricot, buff, lavender, yellow, pale gold, orange, salmon, coral and flesh, many overlaid with a delicate bronze cast. Form ruffled, fluted and marked with sun rays and blotches of butterfly sheen metallic jewel tones. Distinct strain and unlike any other Pansy. Excellent for cutting.
- Steele Pansy Blend. Blend of all above Steele varieties..... 1/4 oz. \$5.50..... PANS-8X. 03¢

PARKINSONIA. (pahr-kin-SOH-ne-ah) Leguminosae.

Tropical and sub-tropical shrubs and trees with whitish or yellow racemes and flattened leathery pods. None are hardy in the North but others are native up to Texeaa and Arizona.

- aculeata. Tree to 30 ft; thorny; fls yellow, frag; hedge plant..... PARK-1. 25¢

PARONYCHIA. (par-oh-NIK-ee-ah) Whitlow-wort, Nail-wort. Illeceosceae.

Small herbaceous tufted annuals and perennials with small clustered flowers. They are especially nice in the rockery and easily grown.

- argentea. Prostrate; white fls in dense clusters amongst lvs; HHP.... PARON-1(C). 30¢

PASSIFLORA. (pas-i-FLOH-rah) PASSION FLOWER. Passifloraceae.

G-50 d.

Mostly tendril climbing plants not hardy in the North but many are grown indoors where they make good house plants. In pots use some leaf mold in a fibrous loam and give liquid manure when in growth.

- caerulea. Fls to 4" ac; pale pink, the crown white and purple; house pl.... PASS-9. 25¢
- Columbian species. Collected n Columbia..... PASS-11. 25¢
- incarnata. White fls shading to pink with rings around fls; Va.-Tex.... PASS-17. 25¢
- mollissima. Fls rose, 3" ac; fruits yellow; from Andes..... PASS-29. 25¢

PEDICULARIS. (pe-dik-eu-LAY-ris) WOOD-BOTONY LOUSEWORT. Scrophulariaceae.

Annuals and perennials with two-lipped flowers in spiked clusters in whitish and reddish colors and used in the rockery and border.

- densiflora. Very brilliant, scarlet fls; woodland; 1 ft; Calif; HP..... PEDI-4. 25¢
- groenlandica. Red and purple fls; 18" hardy; HP..... PEDI-5. 25¢
- nepalensis. PEDI-9. 20¢
- siphonantha. Pink fls; beautiful lvs; rockery; HP..... PEDI-12. 25¢
- Pedicularis Mixture. All kinds listed PEDI-X. 20¢

PELARGONIUM (per-ahr-GON-ne-um) STORK'S BILL. Geraniaceae.

The Geranium commonly grown in the greenhouses in the North, all tender perennial, are listed here. The genus Geranium or Cranesbills are listed under Geranium. While the florist varieties of Geraniums are grown from cuttings, many are grown from seed, especially for the pleasure of the new forms and hybrids. They are easy to grow.

- zonale, Mixed. Seed saved from a large European collection..... PELA-35. 20¢

PELTOPHORUM. (pel-TO-fro-rum) (Baryxylum) Leguminosae.

Tropical ornamental trees with showy yellow flowers in terminal panicles and flattened winged pods. Suitable for the far South only.

- africanum. Rhodesian Black Wattle. Thorneless, feathery fol; sweet sc.... PELT-1. 25¢

PENNISETUM. (pen-i-SEE-tum) Ornamental Grass. Gramineae.

Annual and perennial ornamental grasses for borders or specimen planting. Used also for dried flowers. Start seed indoors early for good sized plants; they are easily grown; space plants 12-18 inches apart.

- Ruppelii. Fountain Grass. Solitary spikes, purple, red, rose; 4 ft; TP.... PENN-9. 15¢
- villosum. (longistylum) Pretty, 2 ft; spikes plume-like, purplish; TP.... PENN-11. 15¢

PENSTEMON. (pen-STEEM-on) BEARDS-TONGUE. Scrophulariaceae.

An attractive genus of perennials, nearly all of which are native N. American; in bright tubular flowers on terminal racemes or panicles. They are not hard to grow and do best in a well drained soil. They are great bloomers, sometimes causing the death of the plant.

- aggregatus. Showy; lge deep blue fls; best of clusterheads; 1 ft; HP..... PENS-4. 25¢
- albertinus. Bright blue spikes, rockery; lvs in basal rosettes; 8"; HP..... PENS-5. 25¢
- unilateralis. Tall lavender border type; 2 ft; Wyo; HP..... PENS-14B. 30¢
- auriberbis. Neat rock pl; showy, pale lilac, golden beard; 4-8"; HP..... PENS-15. 25¢
- triflorus integrifolius. PENS-15B. 35¢
- barbatus. Red fls 1" long; 6 ft; UTAH; HP..... PENS-20. 25¢
- Flat Head Lakes. Clear coral red; blooms all summer; nice; HP.... PENS-20F. 30¢
- Hybrids. A French grown strain..... PENS-20H. 25¢
- Barreiteae. Shrubby, rose-purple fls; 1 ft; HSh..... PENS-21. 25¢

PENSTEMONS Continued on Page 221.

PIONEER SEED COMPANY

DIMONDALE MICHIGAN

PENSTEMONS - PERILLA

PENSTEMONS Continued from Page 220.

—bicolor typicus. Yellow form; large fls; 3 ft; HP.....	PENS-24. 35¢
—bicolor ssp roseus. Rare Arizona form, rose-purple fls; 1 ft; HP.....	PENS-24R. 35¢
—Bridgesii. Sub-shrub; fls intense scarlet; RG; 1 ft; HP.....	PENS-23. 25¢
—Canescens. Pale purple fls; for wild garden; 3 ft; HP.....	PENS-28. 20¢
—Cardwellii. Fine sub-shrub; purple fls; broad ev. lvs; 1 ft; HHP.....	PENS-29. 25¢
—caudatus. Glaucous blue lvs; lavender or blue fls; 1 ft; HP.....	PENS-31. 25¢
—Alba. A white flowered form.....	PENS31A. 25¢
—Cobaea. Fls 2" long, purple; 2 ft; MO-Tex; HP.....	PENS-31. 30¢
—connatifolius. Very pretty; lge. bell-shaped fls; 2 ft; HP.....	PENS-31C. 30¢
—clutei. Bluish lvs; fls rose touched orange; 3 ft; HP.....	PENS-33. 25¢
—albiflorus HP.....	PENS-33A. 35¢
—comarrhenus. Showy deep blue; lovely; 18"; HP.....	PENS-35. 25¢
—congestus. Dense basal rosettes of bluish lvs; blue spikes; 2 ft; HP.....	PENS-37. 25¢
—cyananthus. Intense blue fls in clusters; 2 ft; HP.....	PENS-44. 25¢
—Davidsonii. Matted alpine; lilac-purple fls; Wasm; HP.....	PENS-47. 35¢
—dustus. Neat attractive RG plant; mats 1 ft. ac; blue fls; 8"; HP.....	PENS-50. 25¢
—Digitalis. White or pinkish fls; strong grower; 5 ft; HP.....	PENS-53. 25¢
—Eatonii ssp exsertus. Showy, large spikes of red fls; 4 ft; HP.....	PENS-57S. 35¢
—Eatonii ssp. lancefolius. A Nevada form with narrow lvs; 4 ft; HP.....	PENS-57L. 30¢
—Eatonii ssp. undosus. Downy stems, big basal lvs; red fls; 2-3 ft; HP.....	PENS-57N. 35¢
—erianthera ssp. saliens. Flat rosettes; fls lge. lavender; RG; 1 ft; HP.....	PENS-59. 25¢
—Fendleri. Blue flushed pink fls; dry places; RG; 1 ft; HHP.....	PENS-61. 25¢
—flavescens. Neat alpine; small creamy yellow fls; HP.....	PENS-63. 25¢
—floridus. Showy fls spikes in rose-pink; 4 ft; HP.....	PENS-64. 25¢
—fruticosus. Blue fls in June; shrubby; 2 ft; HP.....	PENS-65. 25¢
—Alba. Good shrubby evergreen; white fld form; 12"; HP.....	PENS-65A. 30¢
—Gairdneri. Small pure blue fls; tufted plant; 10"; HP.....	PENS-66. 30¢
—Garrettii. Lge deep blue fl spikes; RG; 1 ft; HP.....	PENS-67. 25¢
—glaber. Procurrent; fine purple-blue; very hardy; 1 ft; HP.....	PENS-68. 25¢
—gloxinioides. Sensation. Showy, many colors; cutting; 2 ft; HHP.....	PENS-71S. 25¢
—grandiflorus. Showy, large lavender-blue fls; 6 ft; HP.....	PENS-76. 25¢
—Albus. Comes 50% true; white form; 6 ft; HP.....	PENS-76A. 30¢
—Lavender Form. A showy color; 5 ft; HP.....	PENS-76L. 30¢
—Hartwegii. Fls scarlet, 2" long; giant flowered German strain.....	PENS-83. 30¢
—heterophyllum. Showy Calif sp; rose-violet to intense blue; 1-5 ft; HHP.....	PENS-84. 25¢
—hirsutus. Pink to purple, improved; 2 ft; HP.....	PENS-85. 25¢
—Gladwyne Varieties. Mrs. Henry's strain; beautiful; nice colors.....	PENS-85G. 25¢
—Hybrid. Southgate Gem.....	PENS-88SG. 25¢
—grandiflorus x Murryanus. Very nice and easy to grow; HP.....	PENS-88GM. 30¢
—Pink. A nice pink form.....	PENS-69P. 30¢
—Jamesii. Alpine, neat, clumps; fls soft blue-lavender; 1 ft; HP.....	PENS-92. 25¢
—laevigatus. Pale lavender fls; 3 ft; HP.....	PENS-95. 25¢
—leiophyllum. Rare, fls pure deep blue; easy; 3 ft; HP.....	PENS-96. 35¢
—lentus. Pretty; spikes of rare blue shade; somewhat alpine.....	PENS-97. 35¢
—microphyllum. Shrub; bright yellow fls; 4 ft; HP.....	PENS-104. 30¢
—neomexicanus. Long spikes of bell-shaped blue fls; 2 ft; HHP.....	PENS-111. 25¢
—nitidus. Blue fls; 1 ft; Mont; HP.....	PENS-113. 25¢
—nitidus ssp polyphyllum. Blue fls; funnelform; Mont; HP.....	PENS-113P. 40¢
—Palmeri. Very showy, very large white flushed pink fls; 3 ft; HHP.....	PENS-120. 25¢
—White Form. Pure white fls.....	PENS-120W. 25¢
—eglandulosus. Broader type and thinner stems; smaller capsules.....	PENS-120E. 35¢
—platyphyllum. Sub-sh; showy spikes of blue fls; RG; 1 ft; HP.....	PENS-128. 25¢
—procerus. Native Mont. sp., blue fls June-July; 1 ft; HP.....	PENS-129. 25¢
—pseudospectabilis ssp. connatifolius. Showy; various colors; 1 ft; HP.....	PENS-131. 25¢
—Rattani minor. Lavender fls; smaller than species; 18"; HP.....	PENS-134M. 25¢
—Richardsonii. Easy; pink to rose-lilac fls; good for beginner; 2 ft; HP.....	PENS-135. 25¢
—rubicundus. Attractive; lovely rose fls; stands some shade; 4 ft; HP.....	PENS-137. 30¢
—Scouleri. Shrub; white fls; 1½ ft; HP.....	PENS-142. 25¢
—secundiflorus. Showy; large lavender fls; 2 ft; HP.....	PENS-143. 25¢
—sepalalus. Sub-sh; large inflated violet fls; very showy; 3 ft; HP.....	PENS-144. 35¢
—Six Hills Variety. Small shrubby plant; rosy purple fls; 4 ft; HP.....	PENS-145. 25¢
—speciosus. Very showy, large blue fls, very good; 2 ft; HP.....	PENS-147. 25¢
—strictus. Very showy; densely packed spk deep blue fls; 1½ ft; HP.....	PENS-149. 25¢
—subglaber. Showy deep blue fls; long spikes; 1½ ft; HP.....	PENS-150. 25¢
—triflorus. Bright rose-purple fls; bell-shaped; very nice; HP.....	PENS-159. 40¢
—triphyllum ssp. diphylum. Rich blue-purple attractive; RG; 1 ft; HP.....	PENS-160. 30¢
—Watsonii. Light to deep blue fls in profusion; 1½ ft; HP.....	PENS-170. 25¢
—Whippleanus. Lvs in rosettes; fls purple to lavender; 1½ ft; HP.....	PENS-171. 25¢
—Wilcoxii. Clear blue fls in open panicles; 4 ft; HP.....	PENS-174. 25¢
—Penstemon Blend. Probably more species here than any other blend.....	PENS-X. 25¢
—Small Flowered Species. Mixed.....	PENS-XS. 25¢

PEPPER, ORNAMENTAL: see *Capsicum frutescens*. Many can be grown as pot plants.

PERSEA (PURR-see-uh) Small ornamental trees grown in the warm sections of the U. S. *Boronia*. Red Bay. Hardy S. half of U. S..... **PER5-3. 25¢**

PETROCALLIS. (pet-orh-KAL-liss) Cruciferae.

Annuals and perennials, a few subshrubs of the Med. regions and much like *Scabiosa*.
—*parnasii*. Purplish-pink composite-like heads; 1 in. ac; 4 in; HHP..... **PTERC-3(C). 30¢**

PLYTEUMA. (fy-teu-mah) **HORNED-RAMPION.** Campanulaceae.

Perennials grown mostly in the rockery, the taller ones in the border. They are of easy culture.

—*spicatum*. Blue flowers..... **PHYT-20(C). 30¢**

PERILLA. (pe-RIL-ah) Labiatae.

Half hardy annuals valued for their highly colored foliage and used in bedding for sub-tropical effect. Thrive in light sandy soils; start seed in March in gentle heat.

—*frutescens crispata*. Fol. in many colors much like *Coleus*; 4 ft; TA..... **PERI-1. 15¢**
—*lacinata*. Pretty lacinated foliage..... **PERI-1L. 20¢**

PHYSOSTEGIA. (fy-soh-STEE-ji-ah) **FALSE DRAGONHEAD.** Labiatae.

Hardy perennials thriving best in a cool moist place with some shade. Beautiful in the border or for cutting.

—*virginiana*. Fls in spikes, in purplish red to rose-pink; 4 ft; HP..... **PHOS-4. 15¢**
—*Rose-lilac*. Strain in the one color..... **PHOS-4R. 20¢**

ON PURCHASES OF LESS THAN 50¢ WE WILL ACCEPT 3¢ STAMPS

PIONEER SEED COMPANY

DIMONDALE MICHIGAN

Podophyllum emodi

Plant hunters, especially Kingdon Ward, led by the lure of strange and beautiful plant forms, have found the Himalayas an exciting hunting ground. Through their efforts our gardens have been enriched and made spicy.

Transported over precipitous mountain trails, their slopes sparkling with the jewels of unknown *Rhododendron* blossoms, across turbulent torrents swollen by melting snow from lofty peaks, the yak and pony caravans of these men have brought to America and England treasures, bundles of roots and seeds. For their multiplication and release to our gardens, we are thankful.

One plant to travel this route is *Podophyllum emodi*, exotic Himalayan mandrake, cousin of our native *Podophyllum peltatum*. Hardy in Vermont, virtually unknown in this country, it is a woodland plant of perfection in plant form, spring flower, and autumn fruit. Grown in rich moist woodland soil, half shade to shade, in early spring its interesting bronzy red enfolded umbrellas push up on fifteen inch stems, then open with the sheen of a newly shed Python. Through a slit in the palmate leaf the solitary upfacing flower opens, a white, pink flushed cup with golden stamens.

It is autumn, in fruit, however, that it really treats the eye. To suddenly come upon a colony of the bronzy umbrellas sheltering the amazing glowing crimson fruit, in size and shape of a goose-egg, will halt a gardener in his tracks with a gasp of disbelief.

Grown to front for the skinny shins of the gracefully arching *Polygonatum commutatum*, as a contrast and color spot before a massed planting of *Pteris nodulosa*, or to cluster under *Rhododendron* and *Pieris japonica*, it is spectacular.

Fresh seed, planted in the autumn to freeze, germinate surely but slowly but do not disturb the flats as six months or more may find seedlings pushing above the surface. Take a tip from our *Podophyllum peltatum*, let the plants colonize helter skelter.

On moonlight nights, in the half light before dawn, when *Datura meteloides* exhales its heavy fragrance, and the night flying moths are busy, visit your *Podophyllum emodi* plantation. You may hear the tinkle of yak bells, the toneless sing-song of its driver or words of wisdom from an ageless lama.

Note: The seed of *Podophyllum emodi* has always been difficult to secure and there has always been enough orders on file to absorb what seed that does come in, so one should place his order and than be patient till seed comes in.

DAUBENTONIA TRIPETI

Tender ferny foliage, deciduous shrub to 8 ft; flowers are orange-red, pear-shaped; good drainage. File seeds or treat with boiling water before sowing in the spring; they should handle easily if kept out of the frosts.

CHILOPSIS LINEARIS

Desert Willow, a slender deciduous tree of Southwestern deserts; the flowers are trumpet-shaped, lavender and yellow; stands heat and drought and probably 10 degrees of frost.

humilis: (HEW-mil-iss), low growing or dwarf;

implexus: (im-PLEX-us), interwoven.

PHACELIA - POTENTILLA

PHACELIA. (fa-SEE-li-ah) Hydrophyllaceae.

Hardy annuals and perennials with flowers in lavender to blue, in clusters or racemes; very pretty in mass plantings. Start early indoors or plant later where the plants are to grow. The perennials can be started as late as August.

- campanularia. Brilliant deep blue fls; dry soil; sun; 9"; RG; HHA..... PHAC-2. 15¢
- leucophylla. Spikes of white or pink fls; showy RG; 1 ft; HP..... PHAC-7. 20¢
- Musgrave..... PHAC-11. 15¢
- lanacetifolia. Bee food; Blue fls especially grown for bees; sow in April :HA..... PHAC-15. 15¢
- Oz. 25¢; Lb. \$1.35..... PHAC-17. 15¢
- Whittavia. Calif. Bluebells. Blue, bell-shaped fls; 1½ ft; HA..... PHAC-X. 15¢
- Phacelia Blend. All kinds mixed.....

PHLOGACANTHUS. (flo-ga-CAN-thus) Acanthaceae.

Somewhat shrubby plants with spikes of attractive flowers, related to Acanthus. Best grown in the greenhouse in warm, damp atmosphere and rich soil.

- tryssiflorus. Moderate sized shrub..... PHLK-1. 25¢

PHLOMIS. (FLOH-nus) Labiatae.

Perennial plants suitable for the border and wild garden. They are rather coarse in growth and should be in the back ground plantings. Easily grown from seed.

- Purple. Showy, easy, vivid purple fls; whorl above whorl; 4 ft; HP.... PHLO-1. 15¢

PHOENIX. PALM. Palmaceae.

Feathery Palms from Africa and Asia and commonly grown in the far South or as greenhouse tub palms.

- canariensis. Tree to 50 ft; hardiest Palms; Gulf Coast 1,000 seeds \$3.00....PHOE-2. 25¢

PHYSALIS. FIS-a-lis) HUSK TOMATO, GROUND CHERRY. Solanaceae.

Easily grown, starting indoors or planting direct to the soil, much like tomatoes.

- Alkekengi. Chinese Lantern Plant (Francheti) For its red pods; 2'; HA PSAL-1. 15¢

PIERIS. (py-ER-is) Ericaceae.

Evergreen shrubs and small trees native of the N. Am. and Asia. Best in sheltered positions, some in the greenhouse; moist sandy loam with peat or leaf mold best; partial shade suits them.

- floribunda. Pretty small ev. sh; short spikes, white bells; to 6 ft; HSH.... PIER-1. 25¢
- formosa. Small tree; fls white or pink, drooping panicles; to 20 ft; HSH.... PIER-2. 25¢
- japonica. Nice large shrub to 20 ft; fls white; urn-shape, clusters; HSH.... PIER-3. 25¢
- ovatifolia. Semi-evergreen to 40 ft; sprays of white bells; HSH.... PIER-4. 25¢
- taiwanensis. Compact evergreen ;fls long nodding white; 8 ft; TSH.... PIER-6. 35¢
- Pieris Blend. All species mixed..... PIER-X. 20¢

PITTOSPORUM. (pit-TOSP-or-um) Pittosporaceae.

Evergreen trees and shrubs native of sub-tropical regions. They are very ornamental in foliage, flower and fruit and much grown in the far S. Tobira also for GH.

- crassifolium. Sh or tr to 30 ft; fls red or purple; terminal cl; HHTr..... PITT-5. 25¢
- Tobira. Sh to 10 ft; fine for hedges; frag; white fls; HSH.... PITT-23. 25¢
- undulatum. Sh to 25 ft; fls yellowish green; dense terminal cl; HSH.... PITT-25. 25¢
- Pittosporum Blend. All above species..... PITT-X. 25¢

PLATYCODON. (plat-e-KOH-don) BALLOON FLOWER Campanulaceae.

One showy perennial species, thriving in loamy soils, in full sun, blooming 2nd year.

- grandiflorum Mixed. White and blue fls; very beautiful; 2½ ft; HP..... PLTY-1. 20¢
- Double. Double, blue star fls; 2 ft; HP..... PLTY-1D. 25¢

PLUMBAGO. (plum-BAY-go) LEADWORT. Plumbaginaceae.

Shrubby plants, not hardy in the North. The flowers are in terminal spikes.

- zayheri. Rare S. Rhodesian sh; pure white fls; drought resistant..... PLUM-5. 25¢

POLEMONIUM. (pol-ee-MOH-ne-um) Polemoniaceae.

Perennials grown in the border; easily grown in rich loam, best from seeds sown in the fall. Flowers in blue, purplish white or yellowish, often nodding, in terminal corymbs.

- caeruleum. Fern-like lvs; gorgeous sky blue fls; 3 ft; HP..... POLE-4. 15¢
- album. Pure white form..... POLE-4A. 20¢
- carneum. Rich pink trumpets; RG; partial shade; 1½ ft; HP..... POLE-6. 25¢
- Haydenii. Blue or white fls, May-June; RG; 1 ft; HP..... POLE-16. 20¢
- occidentale. Native bog species; blue or violet fls; 1½ ft; HP..... POLE-21. 25¢
- pulcherrimum. Easy and pretty; pale blue fls; fine RG; 1 ft; HP..... POLE-25. 25¢
- Richardsonii. Blue to purplish fls ½ inch ac; 9" tall; HP..... POLE-27. 20¢
- Polemonium Blend. All species mixed..... POLE-X. 20¢

POTENTILLA. (poh-ten-TIL-ah) CINQUEFOIL Rosaceae.

A very large genus of plants or sub-shrubs, most of which are hardy in the North. They are especially good in the border or rockery; sandy soils; The flowers are in yellow, white or red, solitary or terminal cymes.

- argyophylla. Sprays of showy yellow fls 1" ac; RG; 15 in; HP..... POTL-12. 25¢
- afrosanguinea. Silver lvs; deep crimson fls ½ in. ac; 18 in; HP... POTL-12A(W). 30¢
- afrosanguinea. Red or purple fls; similar to Potl-12; 9"; HP..... POTL-13. 25¢
- fragiformis. Golden yellow fls 1" ac; 8 in; HP..... POTL-49. 25¢
- fruticosa. One of the best sh for RG; yellow rose-like fls; to 3 ft; HP.... POTL-52. 35¢
- fulgens. Silvery lv. trailer; salmon-rose fls; 15"; HP..... POTL-53. 25¢
- Gibsonii Mixed. White, carmine, scarlet; 18"; HP..... POTL-56X. 20¢
- macrantha: see Hebe marcantha.
- nepalensis hybrids. Rose and rosy crimson; 2 ft; HP..... POTL-84. 20¢
- nitida. Rose fl, 1" ac; mat-forming; 1 in; RG; Alps; HP..... POTL-86(C). 30¢
- recta v. Warrenii. Masses of golden fls; very nice; 18"; HP..... POTL-106. 20¢
- Warrenii: see Potentilla recta..... POTL-106(W). 30¢
- Potentilla Blend. All kinds mixed..... POTL-X. 20¢

The listing of all flower seeds, runs from the As to the Zs and as often as possible, but so as not to crowd other reading matter out. The listings can be considered all available as long as the listing has not been passed in the following listing.

PIONEER SEED COMPANY

DIMONDALE MICHIGAN

HERBS

By Eleanor Chalfin, Va.

The term "creeping thyme" usually brings to mind a flagstone walk interplanted with some species of this type of herb. This application of the creeping thyme is charming but there are other equally effective uses which may also be carried out in many kinds of gardens. As a practical groundcover for small bulbs, one of the carpet thymes has no parallel. For edgings along a pathway, thyme may be kept trim and neat and once established discourages weeds. In rock gardens a few varieties of the tiny thymes add appeal and their evergreen appearance plus their love of warm rocks and dry, well-drained spots, makes this application an ideal combination.

The varieties recommended and adapted to any of the above suggested sites are the following:

Thymus serpyllum, often called Wild Thyme. This is a very hardy sort which takes a great deal of punishment and gives out a delightful aroma when trod upon. It is considered one of the best thymes for flavor and thus affords spicy seasoning for the kitchen as well as the other utilitarian services rendered. This thyme is a rapid grower and is easily raised from seed and hence is readily available to many home-gardeners. The very fine seed is sown lightly in well prepared pulverized soil and kept weeded until the plants are large enough for transplanting to permanent positions. After a year's growth, the clumps are divisible.

Caraway thyme, Herba barona, was recently mentioned in this magazine by our editor. This variety is a servicable sort also, and is not fussy as to culture nor location. However, caraway thyme does not produce viable seed and so must be propagated by divisions of started plants. This, like most thymes, has a lilac colored blossom and an aromatic scent.

To name a few more kinds, we have the serpyllum aureus, which forms thick carpets of bright golden green. The shade is shy bloomer called Golden Thyme, the T. more intense in spring or fall. The Crimson Thyme, coccineus, gives floral color that is quite showy and of a deeper tone of lavender than most of the other Thymes. The very low Woolly Thyme, lanuginosus, has soft gray felt-like foliage but as it is a rather difficult garden subject, is not too reliable for general purposes. The shallow roots are not tenacious and so requires a sheltered position and one not too hot and sunny.

The White Creeping Thyme, serpyllum alba, is the most lovable of all the carpeters. Drifts of white flowers almost completely cover the plants in the spring and over a long blooming period, with frequent reoccurring cycles on into the late fall. Even when the dainty pure white blossoms are absent, this Thyme looks extremely attractive. The very tiny leaves form a close and low mat which clings securely to the ground as it rambles and spreads into large patches of the brightest green obtainable in any kind of plant, tree or shrub.

In repotting the old ball of earth should always be potted level with the surface, never above or below.

FLOWER SEEDS FOR THE FLORIST

Prices quoted are per pound, unless otherwise stated. 4 ounces or over at the pound rate. Ounce lots at 1/10 the pound rate; 1/4 ounce or over at the ounce rate, all prices postpaid.

	Per Pound
AGERATUM Blue Cap.....	\$25.00
—Blue Bedder	22.00
—Blue Perfection	17.00
ALYSSUM Carpet of Snow.....	6.00
—Little Gem	6.00

ASTERS

Giants of California Blend.....	14.00
—Any variety	19.00
Crego Blend	6.00
—Any variety	6.50
Giant Branching Blend	7.00
—Any color	8.00
Queen of the Market	7.00
—Seperate colors	8.00

COSMOS Sensation:

—All varieties	6.00
—Double Crested Mixed	15.00
—Any variety	18.00
—Orange Flare	5.00
—Orange Ruffles	6.00
—Yellow Flare	5.00

DAHLIA Coltness Hybrids	13.00
—Unwin's Ideal Bedding	16.00

DELPHINIUMS

—Blue Bird Series	60.00
—Blue Jay Series	60.00
—Camelaird Series	60.00
—Galahad Series	60.00
—King Arthur Series	60.00
—Round Table Series	60.00
—Summer Skies Series	60.00

DIANTHUS plumarius Single	8.00
—Heddewigii Blend	5.00

GYP SOPHILA Covent Garden	2.50
—paniculata	4.00
—Double Snowwhite	34.00

HELICHRYSUM Blend	4.00
—Sun Gold	4.50

HOLLYHOCK Chater's Blend.....	13.00
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IPOMOEIA Blue Star	8.00
—Scarlet O'Hara	7.50
—Heavenly Blue	4.00
—Pearly Gates	5.50

KOCHIA Childsii	2.50
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LARKSPUR:

—Super Majestic Blend	6.00
—Any Color	6.00
—Giant Imperial Blend	6.00
—Any variety	6.50
Tall Double Stock Flowered Blend	5.00
—Rosamond	8.00
—All other varieties	6.00

LOBELIA Blue Stone	24.00
—Emperor William	18.00
—Crystal Palace	18.00
—Sapphire, trailing	24.00

MARIQOLDS

Tall African Double Mixed	8.50
—Lemon Queen	12.50
—Prince of Orange	12.50
Carnation Flowered Blend	8.00
—Burpee Gold	6.00
—Mayling	8.00
—Yellow Supreme	6.00

Double Harmony French	
—Coronet	6.00
—Melody	5.00
—Spotlight	5.00
—Hybrids	5.00

Extra Dwarf French	
—Midget	7.00
—Spry	7.00
—Sunkist	7.00
—Yellow Pigmy	7.00
—Blend	7.00

Dwarf Single French	
—Flash	5.00
—Naughty Marietta	7.00
—Red Head	7.00
—Sunny	7.00
—Mixed	6.50

NASTUURTIUM Semi Double Gleam	
—Any variety	2.50
—Glorious Gleam Blend	2.50

PANSY Swiss Giant Blend	65.00
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PETUNIA

Hybrida:	
—Radiance	29.00
—Rose King	15.00
—Howard's Star	35.00
—White King	15.00
—Best Blend	17.00

Nana Compacta:	
—Bright Eyes	40.00
—Celestial Rose	30.00
—FIRE CHIEF	87.00
—Rose of Heaven	25.00
—Snowball	30.00
—Twinkles	40.00
—Blend of bright varieties	25.00

Balcony Type:	
—Most all varieties	30.00
—Blend of bright colors	25.00

Grandiflora single Fringed:	
—Fluffy Ruffles	28.00
—Blend	26.00

Grandiflora Single Plain:	
—White Queen	26.00
—Flaming Velvet	26.00
—Blend	26.00

Giants of California	PER OUNCE
—Eritra Dwarf Giants	60.00
—Dark Shades	36.00
—Light Shades	36.00
—Ruffled Monsters	30.00
—Ramona Strain	38.00

SALVIA splendens:	PER POUND
—Blaze of Fire	55.00
—Bonfire	35.00
—Splendens, tall	30.00

ZINNIA

Dahlia Flowered Blend	6.00
—Any variety	6.00
Giants of California Blend	6.00
—Any variety	6.00
Lilliput or Pompon, Blend	6.00
—Any variety	6.00

PIONEER SEED COMPANY

Dimondale, Michigan, U. S. A.

CLEMATIS VINES

There are some 200 species in this genus, mostly ornamental vines or erect perennials, some of which are woody. They are mainly native of the Northern Hemisphere. The following: *C. flammula* (Plume Clematis), *C. vitalba*, (travelers-joy) and *C. viticella*, the Italian Clematis, are generally grown in the South. The first makes a good wild life food vine as well as a cover and the second is a handsome climber.

The germination of Clematis seed is not any too well understood but there is no doubt an embryo dormancy exists and thus it is recommended that the seed be stratified in moist sand or peat at above freezing for 1-3 months and then plant to their permanent seed beds.

Where any quantity of seed is sown, as would be the case in a nursery, it is recommended that they either be sown in the fall or stratified over winter and sown early in the spring. The seed bed soil should be a rich light loam, well drained, to which a limited amount of lime has been added. The offer of Clematis plants made this month and in last month's issue contains many hard to find species as well as varieties and offers an opportunity for anyone wishing to make a collection of this beautiful vine.

FRUITLESS MULBERRY

Mrs. Beatrice Hoffacker of Mich. asks about a fruitless Mulberry of which they have one plant. We do not know of this tree, does any reader?

The pods of Rue may be cut off and dried for winter bouquets.

Ericaceous plants thrive quickly when their roots are in contact with peat.

CLASSIFIED ADVERTISEMENTS

We wish to make this classified section of special value to our readers who may have plants, roots or any other item that they wish to sell or exchange.

The charge will be 20¢ per line of seven words, per insertion; four insertions at price of three. When offering plant material know your nursery laws.

PLANTS FOR SALE

AFRICAN VIOLET LEAVES. 12 for \$1.00 named varieties, plants 3 to 6 in. tall 3 for \$1.00, my choice. Gypsy Series leaves 20¢ each 7 for \$1.00; plants 2 for \$1.00. Rose-anna leaves 3 for \$1.00; Please add 25¢ postage. Mrs. Sophia M. Baker, 2733 S. E. 35th Place, Portland, 2, Ore.

CUTTINGS: \$1.50 per dozen; house plants mixed or Begonias or Sweet Scented Geraniums, Mints, herbs, wild ferns; prepaid. Mrs. H. C. Sanborn, RFD 1, Thetford Center, Vt.

COLEUS CUTTINGS, RARE AND FANCY varieties; 50 assorted cuttings \$1.00 plus 20¢ postage. Sultana cuttings same price. A. T. Linder, 521 Nathan Hale Rd., West Palm Beach, Florida. ap

AMARYLLIS BULBS

AMARYLLIS GIANT HYBRIDS, mixed colors bulbs, also seedlings, offspring of Dutch and Mead strain. Prices on request. Philip Pate, Kissimmee, 14, Florida. 20

DAHLIA ROOTS

DAHLIA TOES. List your Dahlias in the in this section NOW. It pays.

SEEDS FOR SALE

HERB SEEDS AND PLANTS: We specialize in raising herb seeds and grow all popular and many rarer kinds. Also field-grown perennial herb plants. Our descriptive folder lists many varieties at reasonable prices. PLANTATION GARDENS, RFD 2, Box 193, Lynchburg, Virginia.

DAYLILY SEEDS hand pollinated from choice hybrid reds, rose, pastels. Fresh seed (mixed only) 10 for 30¢; 40 for \$1.00. Ffoulkes, 610 Bryan, Jacksonville, 2, Fla.

RARE PLANTS. If you grow rare plants you will find these columns your best outlet. Try a small ad and see.

TREE AND SHRUB SEEDS: We carry in season over 800 tree and shrub seeds; if you need these seeds be sure you get our list. Pioneer Seed Co., Dimondale, Mich.

BEAUTIFUL INDIAN ORCHIDS Himalayan Flower Bulbs, Anemone, Sternbergia, Iris, Tulips, Unusual charming seeds. G. Ghose & Co. Townend, Darjeeling, India. 19

GLADIOLUS BULBS

GLADIOLUS BULBS. List your surplus bulbs in the classified; it will pay you.

MAKE USE OF THE CLASSIFIED SECTION - IT'S YOURS

The Saxifrages

The Saxifrages are an indispensable part of every rock garden, and rightly so, for their varied rosettes in green or grey, and delightful flowers, make them among the choicest of all rock plants. They have never become as popular as they should in this country, being all too often regarded as difficult, or even ungrowable. Such is far from the truth, at least for the northern states; the difficulty probably comes from trying to handle them as the English do, in too sunny and dry exposures. Saxifrages are very shallow rooted and extremely sensitive (in spite of their hard and enduring appearance) to heat and drought. Grow them in light shade and see that they never dry out, and the problem is solved, at least for most species.

The easiest from seed, germinating quickly and forming flowering plants in a single season are the beautiful Mossies. These make domes of rather open rosettes of much-slashed green leaves, over which on stems of 4 to 12 inches, are a profusion of cup-shaped flowers over half an inch across in late spring, varying in color from white through pink to fairly deep reds. Growing from seeds, the writer, has had no trouble and from a single packet the garden is populated with a wealth of delightful and varied plants. These may not be as good as the named varieties in some respects, but they are an endless source of pleasure.

The Mossies seem to like a fairly rich soil such as suits many Primulas and a fair amount of shade, though an occasional seedling will prosper in the sun.

The Encrusted types requires a gritty soil and fairly sharp drainage, but the essentials are light shade and moisture. These make compact rosettes of grey leaves, green-grey, blue-grey or just plain grey, with a beading of silver along the edge of each leaf. This beading is made up of tiny pits containing lime, from which it would at once be deduced that the plants require lime, but such is not the case, though most will be somewhat happier in a lime soil. In size the rosettes vary from 1/4 to 6 inches across, and quickly spread into fairly broad mats or humped domes. The leaves may be very narrow or fairly wide, straight or spoon-shaped. The flowers are plentiful on stems of 2 to 12 inches, pure white, white with red dots, pink or rarely yellow. This group hybridizes very freely and a packet will give quite a variety of types, regardless of the seed parent.

The Kabschias are the choicest of this huge family, making very tiny rosettes of leaves quite varied in shape, and bearing one or more flowers on almost negligible stems. In many varieties the individual flowers are larger than the rosettes that produce them! The color range is extensive, from pure white through yellows and soft pinks to reds and purples. This group prospers under the same conditions as the encrusted group, but being so much smaller and even more shallow-rooted, needs more careful attention.

There are many other types of Saxifrage, extremely varied in appearance, but the ones mentioned above complete the choicest and best.

PERSEA BORBONIA

A slender evergreen tree from 20 to 30 feet high and found from Delaware to Florida in moist soils; handsome laurel-like foliage and small blue-black fruits. horrilus: (HORR-id-us), horrid or spiny.

POPPIES - POLYGONUM

NOLINA. (nol-LYE-nuh) Liliaceae.

A dry country or desert plant producing a tree-like trunk; small whitish flowers; stiff linear lvs; for warm sections.

—longifolia. (Dasyllirion longifolium) 10 ft; Mexico..... NOLI-3. 50¢

POPPY. PAPAVER (pa-PAY-ver) Papaveraceae.

Common name for the genus Papaver (pap-PAY-ver). These beautiful flowers come in both annuals and perennials, in a good color range, and flowers that are really gorgeous. Easily grown from either late fall or early spring sown seeds, where plants are to grow. The annuals especially resent transplanting.

—alpinum. Alpine P. Nearly stemless; white or yellow fls; 10"; HP..... POPY-2. 25¢
—bracteatum. Blood-red fls; hairy; 3 ft; HP..... POPY-10. 15¢
—cardinale fl. pl. Cardinal P. Double, red fls; HA..... POPY-12. 15¢
—glaucum. Tulip Poppy. Deep scarlet, 4" ac; 2 ft; Persia; HA..... POPS-17. 20¢
—lateriteum. rBoad petalled brick-red fls; hairy; 2 ft; HP..... POPY-22. 25¢
—Mairei. Hardy Poppy from Atlas Mts; anthers black; fls rose or white..... POPY-25. 25¢

P. ORIENTALE: Hardy perennials with huge flowers in varied color range. The seed does not come entirely true but the varied colors resulting from good seed, is very interesting. Seedlings have a more robust growth than the vegetatively increased plants.

—Beauty of Livermore. Reselected huge crimsons..... POPY-30L. 15¢
—Brilliant. Bright fiery red..... POPY-30B. 15¢
—Victoria. Beautiful salmon-pink with black blotch..... POPY-30V. 15¢
—Mixed. All P. orientale varieties mixed..... POPY-30X. 15¢

P. NUDICAULE: Iceland P. Perennials to 1 ft. tall and blooming first year from seed, rarely lasting over 3 years, but they reseed. They flower from April to June and are charming in mass plantings in the border.

—amurense. Showy butter-cup fls; fl stems to 2 ft; HP..... POPY-28A. 15¢
—Coonara Pink. Gorgeous rose tints, soft pink to deep rose 18"; HP..... POPY-28C. 15¢
—El Monte. A new beautiful deep tangerine-orange, fringed; HP..... POPY-28E. 15¢
—Imperial Jewels. A new strong stemmed strain in gorgeous colors; HP..... POPY-28J. 15¢
—Gariford Giants. Crinkly petals, ideal cut fl if cut in bud; 2-3 ft..... POPY-28F. 15¢
—Gibson Giants. Lovely orange, huge flowers..... POPY-28G. 20¢
—Kelmscott Strain. Huge fls 3" ac; very pretty colors; 2-3 ft..... POPY-28K. 20¢
—Sunbeam Improved strain of these beautiful Poppies..... POPY-28B. 15¢
—Sanford's Giants. Immense fls on stiff stems; varied color range..... POPY-28S. 15¢
—The Empress. Huge salmon-rose and pink fls..... POPY-28M. 15¢
—White. Showy in large beds and for contrast..... POPY-28W. 15¢
—Iceland Poppies Mixed. A truly gorgeous blend..... 1/2 oz. 40¢ POPY-28X. 15¢

P. Rheoas: Shirley Poppy. They have been highly improved and come in many colors with crinkly petals. Sow late in the fall in the South. Hardy annuals to 3 ft. tall.

—American Legion. Dazzling orange-scarlet with black mark..... POPY-38A. 15¢
—All Double Fantasy. Select strain in bright colors..... POPY-38F. 20¢
—Begonia Flowered. Large double fls in bright colors..... POPY-38BF. 20¢
—Carnation Flowered. Mixed. Large double carnation type fls..... POPY-38N. 15¢
—Cavalcade. Double Begonia-fl; rich orange-scarlet; huge; 2 ft..... POPY-38C. 15¢
—Dazzler. Double orange-scarlet; beautiful..... POPY-38D. 15¢
—Gaiety. White with pink edge, showy and dainty..... POPY-38G. 15¢
—Ryburgh Hybrids. Do Anemone-fl satiny shades of white, pink, rose..... POPY-38R. 15¢
—Orange King. Beautiful deep orange..... POPY-38K. 15¢
—Rembrandt. Beautiful mahogany red..... POPY-38R. 20¢
—Ranunculus. Double Mixed..... POPY-38L. 20¢
—Rev. Wilk's Strain. Single fls in beautiful colors..... POPY-38W. 15¢
—Salmon Shades. Very pretty..... POPY-38S. 15¢
—Scarlet Glow. Large double flowering..... POPY-38SG. 15¢
—Sweet Briar. Double Begonia-fl, pretty wild rose pink..... POPY-38B. 15¢
—Shirley Poppy Blend. All colors and types mixed..... 1/2 oz. 25¢ POPY-38X. 15¢
—Double Shirley Blend. Double varieties only..... POPY-38DX. 15¢

POLYGALA. (poh-LIG-ah-lah) MILKWORT. Polygalaceae.

Most are tender annuals and perennials; grown under glass in N. Plant in light soil. and partial shade. A few are natives of N. America.

—apopetala. Lge pink fls 1/2" ac; 10 ft. in Cal; Sh..... POLG-4. 25¢

POLYGONUM. (poh-LIG-oh-num) KNOT-WEED, FLEESE FLOWER. Polygonaceae.

A large genus of annual and perennial greenhouse and hardy plants, variable in habits. Easy to grow; plant annuals in open ground early.

—amplexicaule. Pretty; spikes of small rose-pink, white fls; 3-4 ft; HP..... POLY-4. 25¢
—emodi..... POLY-11. 20¢
—orientale, Rubin. Interesting cut fl or border plant; red fls; 1 1/2 ft; HA..... POLY-15. 15¢
—macrophyllum..... POLY-12. 15¢
—mollis. Sh'by; panicles of white fls; will grow in moist places; 3 ft HB..... POLY-13. 25¢
—Polygonum Mixture. All species mixed..... POLY-X. 15¢

POLYPTERIS. (pol-LIP-ter-iss) OTHAKE. Compositae.

Erect plants with rose-purple or flesh colored, radiate heads in loose panicles.

—Hookeriana. Fl heads 1" ac; rays rose-red; pretty cut flower..... POLP-1. 15¢

PORTULACA. (port-yew-LAY-kuh) MOSS ROSE, PURSLANE. Portulacaceae.

Perennials but usually treated as hardy annuals in the North. They are low growing fleshy stemmed plants having brilliant large showy flowers in many bright colors. They are sun loving plants and do fine in the hottest spots, where other flowers would die. Sow seeds in April, where they are to grow; 2-3 inches tall. They make pretty beds.

—grandiflorum fl. pl. Moss Rose. Double fl form; rose, red, yellow, white..... PORT-IDX. 20¢
—Single Mixed. Showy single fls; large petals..... PORT-15X. 15¢
—Single Jewels. Bright glistening wide open fls; beautiful strain..... PORT-1J. 15¢
—Portulaca Blend. All kinds mixed..... PORT-IX. 15¢

POTENTILLA. (poh-ten-TILL-uh) CINQUEFOIL. Rosaceae.

Grown mostly for the border and rockery and nearly all hardy plants. They are not hard to grow.

—Double French Hybrids..... POTL-70F. 25¢
—Gibsoni. Scarlet flowers..... POTL-55S. 25¢
—tonmentillo-formosa. (Tonguei) Prostrate; yellow fls; HP..... POTL-127. 35¢
Potentilla Continued in next booklet

PRITCHARDIA telefera: see Washingtonia filifera. Fan Palms.

PIONEER SEED COMPANY

DIMONDALE MICHIGAN

ALL GARDEN AND MEDICINAL HERB SEEDS

(Continued from Inside Front Cover)

sown early in the spring in rich soil, the leaves are ready in late mid-summer; being hardy they will be ready for use in the spring following cutting before flower stems develop. **Pkt. 15¢; Oz. 30¢; ¼ lb. 80¢**

CRESS, True Water

(*Nasturtium officinalis*) Low trailing perennial growing in wet ground and springs, easily grown from seed and is best for greens in early spring or fall.

Pkt. 20¢; Oz. 90¢

DILL

(*Anethrum graveolens*) Parsley Family grown for its seeds, which are used in flavoring of dill pickles. Sow early in the spring or late in fall, in rows 18" apart, thinning to 8-10 in. in row. When ripe cut the heads, drying them on canvas and then thrashing out the seeds, which can be stored in cloth bags in a dry place.

Pkt. 10¢; Oz. 25¢; ¼ lb. 40¢

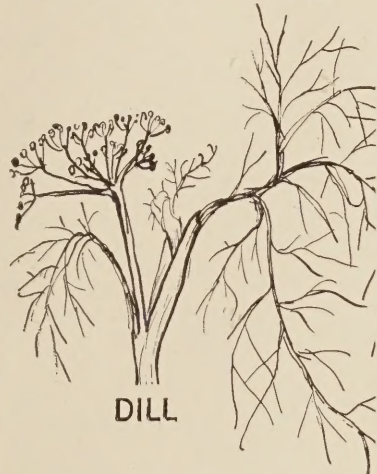
FENNEL, Long Sweet

(*Foeniculum vulgare*) A hardy perennial grown as an annual for its aromatic seeds and fragrant young leaves, both used in flavoring; seeds are slow to germinate, so sow early in the spring, give full sun any ordinary care.

Pkt. 15¢; Oz. 50¢

—**Florentine.** (*F. vulgare*, var. *dulce*) Has greatly enlarged leaf bases from a bulb-like base, 3-4 in. in diameter; the bulbs are blanched by covering with earth and then cooked as a vegetable but the stalks which resemble Anise-flavored Celery, can be eaten raw. Make plantings every two weeks, growth rapid.

Pkt. 20¢; Oz. 60¢



DILL

SWEET FENNEL, Sicily

Large Sweet Broad Bottom. Similar to Florentine or Florence Fennel, and having a very broad base or 'apple', is extra tender.

Pkt. 15¢; Oz. 30¢; ¼ lb. 85¢

HOARHOUND

(*Marrubium vulgare*) An aromatic perennial with woolly white foliage and whitish flowers; used mainly in flavoring candies; plant thrives in dry soil.

Pkt. 20¢

HYSSOP (HIS-up)

(*Hyssopus officinalis*) Hardy perennial herb or sub-shrub grown as a culinary and medicinal herb and as an ornamental, grown from seed sown early in spring or late fall; transplant in early summer to 12-18 inches apart; limy soil best.

Pkt. 15¢; Oz. 50¢

LAVENDER, absinthium.

Shrubby plant and grown as a source for absinthe; hardy and easily grown.

Pkt. 15¢; Oz. 50¢

LAVENDER, True.

(*Lavendula spica*) Not real hardy in N. and must be protected with a good mulch of straw; they develop their best



LAVENDER

fragrance if grown in a dry, light, limey friable soil in full sun, the soil not too rich. Grown for an ornament as well as for its leaves which are dried, giving off its rich fragrance for which it is valued. Start early in spring indoors or try planting it outdoors in Nov.

Pkt. 25¢; 3 for 55¢

LEEK

(*Allium porrum*) A hardy biennial with a mild onion flavor, grown for its thick leaves and stems and used as asparagus or for seasoning soups and meats dishes. Sow early in spring in a seed bed, transplanting when 3" tall, 1-2 in. apart in flats; plant in light rich moist but well drained soil in rows with the plants 12-15" apart, setting them half their height in soil and gradually draw earth around stems as they grow. The plants can be dug for winter use, placing them in a cold frame or cool cellar, having a low temperature.

Pkt. 15¢; Oz. 40¢; ¼ lb. \$1.60

LOVAGE

(*Levisticum officinale*) A perennial herb growing to 6 ft. with glossy dark green

Continued on Page 123

leaves and greenish-yellow flowers in umbels, hardy as far N. as Pa. and Ill., best in deep rich soil, easy to grow. Cultivated for its aromatic fruits.

Pkt. 15¢

RHUBARB

(*Rheum raphaniticum*) White Rhubarb is commonly increased by division of the root, growing it from seed is a much easier method, cheaper and above all plants from seed are much stronger and better growers. It comes very true to type as well. Sow seed early in the spring, growing them in a rich soil, transplanting them as they get size and finally set out in rows 4-5 ft. apart both ways. They stand a good amount of manure.

—**Golath.** A red stem variety that is used very much.

Pkt. 15¢; Oz. 25¢; ¼ lb. 80¢

—**Queen Victoria.** A popular English var

Pkt. 15¢; Oz. 25¢; ¼ lb. 80¢

ROCKET-SALAD

(*Eruca sativa*) Roquette. It is used as greens.

Pkt. 15¢; Oz. 45¢

ROSEMARY

(*Rosmarinus officinalis*) A hardy shrubby plant grown chiefly for its aromatic leaves used in seasoning as well as an oil used in medicines. Grows 6 ft. and lasts for years with a little winter protection; prefers dry, well drained soils

Pkt. 25¢; Oz. \$1.60

RUE

(*Ruta graveolens*) A perennial shrubby plant to 3 ft. with yellowish flowers; has medicinal properties as well as ornamental.

Pkt. 25¢

SWEET BASIL

(*Ocimum basilicum*) Easily grown tender annual, 1 ft. Leaves delightfully clove-scented and used either green or dried in seasonings soups, salads, cottage cheese, chopped meats or sausages. Plant 6-10" apart, thrives in light, warm soils. Cut in undles to dry. Plants can be potted for winter growing.

Pkt. 15¢; Oz. 45¢

SAGE

(*Salvia officinalis*) Hardy perennial, easily grown; plant early in spring or in Nov. The leaves are dried and used as seasoning in meats, sausages, stuffings and cheeses. Space 2½-3 ft.

Pkt. 15¢; Oz. 30¢

SAVORY, Winter

(*Satureja montana*) A perennial herb or sub-shrub that is grown and used much like the Summer Savory.

Pkt. 15¢; Oz. 65¢

SAVORY, Summer

(*Satureja hortensis*) Hardy annual and very useful culinary herb, the aromatic leaves being used, either green or dried, soups and stews. Start seed in pans on account of their small size, transplanting as soon as large enough, spacing 15 inches apart; thrive in a good garden soil and full sun. It is very famous for its flavor in green string beans and should be grown in all bean sections.

Pkt. 15¢; Oz. 45¢

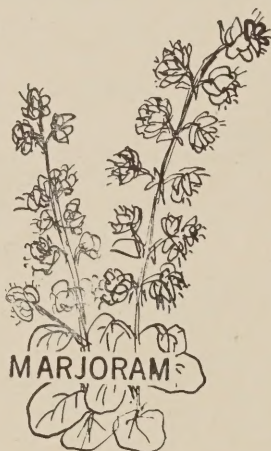
(Continued on Back Cover)



MINT

PIONEER SEED COMPANY - DIMONDALE, MICH.

HERB SEEDS OF ALL KINDS



MARJORAM

(Continued from Inside Back Cover)

SCORZONERA (skaur-zoh-NEE-rah)
(Cynara Cardunculus) A tall and strong
nial herb grown as an annual for its long
slender roots known as Black or Spanish
Salsify. The young leaves can also be
used in salads. Grow it the same as for
Parsnips or Salsify.

Pkt. 15¢....Oz. 35¢;...¼ lb. \$1.25.

SCURVEY GRASS

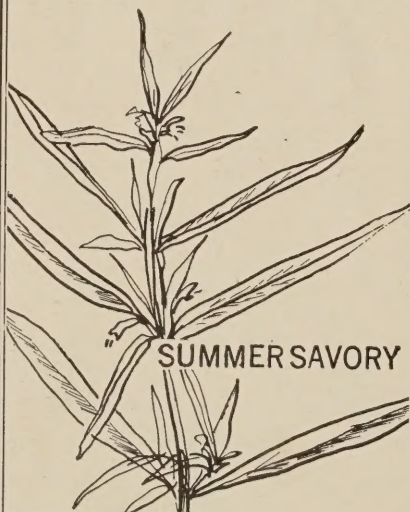
(Cochlearia officinalis) A small herb
of Mustard Family grown for its medicinal
properties also as a salad; prefers cool
and partially shaded soil.

Pkt. 15¢

SORREL, Mammoth Lyon

(Rumex) Low growing perennial with
sour leaves used in salads or to flavor
salads. This is an improved variety much
used in France and well worth growing
where a market is available.

Pkt. 15¢; Oz. 45¢.



SUMMER SAVORY

SWEET MARJORAM

(Origanum marjorana) Perennial best
grown as an annual in the N; leaves used
green in summer and dried for winter,
excellent for salads when green and for
seasoning soups, meats, poultry and cheese

when dried. Seeds are small and best
started in seed pan and transplanted out,
12-15" apart. For drying geather leaves
just before they flower.

Pkt. 20¢;....Oz. 35¢.

TANSY, French

(Tanacetum vulgare) Common Tansy.
perennial to 3 ft., grown in the garden for
ornament, in herb gardens for its medicinal
properties and flavoring, easily grown.

Pkt. 15¢;....Oz. 80¢.

THYME

(Thymus vulgaris) A hardy perennial
growing to 8" tall with lavender flowers,
grown both for ornament in border or rock
garden and for its flavor, the fresh tops
being used in garnishing and the leaves,
either dried or fresh, chopped and used
in a wide variety of cooked foods. Easily
grown in ordinary garden soil, spacing
10-12 inches apart.

Pkt. 15¢;....Oz. 45¢.

WORMWOOD

(Artemisia vulgaris) Mugwort or Mother
Wort. Tall plant with stems often purple
and leaves fragrant, green above and white
beneath, flower heads yellow in spikes.
Plants are aromatic, the tops and leaves
being the parts dried; perennial.

Pkt. 20¢



WORMWOOD

MOUNTAIN SPINACH

(Atriplex hortensis) An annual which
is sown in the open in March or April
in drills. Thin the seedlings when they
have made 3 or 4 leaves, after which they
require no further attention except water-
ing in dry weather. The leaves are eaten
boiled like Spinach.

Oz. 35¢....ATRI-4. 15¢

CARDOON, Spanish

(Scorzonera hispanica) Herbaceous peren-
variety, chiefly grown in the South; large
broad ribbed leaves. It is not spiny but
the ribs are not so solid as those of other
sorts.

Oz. 40¢ CYNA-1. 15¢

WINTER PURSLANE

(Montia perfoliata) The leaves are eat-
en like those of Purslane, either raw or
boiled. Annual, 4-12 inches.

MONT-4. 15¢

MERCURY

(Chenopodium Bonus-Henricus) A good
hardy perennial. Sow seeds in the spring
in a seed bed and transplant once before
setting out in the garden. The leaves are
eaten like Spinach or the shoots may be



PIMPERNEL

blanched by earthing them up and use
like Asparagus a couple weeks before the
latter comes in.

Oz. 40¢ CHEN-5. 15¢

PURSLANE, Golden

(Portulaca oleracea v. sativa) An extra
large "pusley", the leaves of which at
least double those of other kinds and grow
closer together. It does not grow as rap-
idly but is more productive. Best for
market gardeners, where "pusley" is sold
on the market.

Oz. 50¢ PORT-4G. 15¢

BROCCOLI, Thousand Headed

In this variety the stem is usually divid-
ed into a number of branches bearing
large leaves. Although not so tall, it is
considered at least as productive, but less
hardy than the Jersey Tree Kale.

Pkt. 15¢; Oz. 50¢

CABBAGE Schweinfurt Drumhead

Summer or autumn variety attaining
a diameter of 20 inches or more, rather
soft and often tinged brown. It is early
and when sown in April, may be cut in
September.

Pkt. 15¢; Oz. 50¢

MUSKMELON, Green Climbing

A French variety that is ideal for grow-
ing on a trellis. Fruits oblong, 3-4 in. in
diameter, deep green, slightly dotted with
pale green, with faintly marbled ribs.
The flesh is green, very melting, exceed-
ingly juicy, sweet and flavored. An early
kind.

Pkt. 15¢; Oz. 35¢

WELSH ONION

The Welsh Onion does not form a bulb
like other Onions but only a small en-
largement at the base of each shoot. This
variety is coppery red, productive, com-
paratively hardy and is the most gener-
ally grown. It is especially good for
bunching onions and should be tried by
those growing onion sets for green Onions.
Sow the seed from February to May, same
culture as Onions.

Pkt. 15¢; Oz. 50¢

NOTE: This list will be continued in next
booklet; there are many rare and new
herb and vegetable seeds to be listed yet.

PIONEER SEED COMPANY - DIMONDALE, MICH.